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OIL OUTLOOK: PRICE, SUPPLY, MERGERS, IMPORTS, AND TAXES

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ORIGINAL

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
FOSSIL AND SYNTHETIC FUELS

OF THE

COMMITTEE ON
ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

FIRST SESSION

JULY 11, 15, 30, SEPTEMBER 10, AND NOVEMBER 7, 1985

Serial No. 99-79

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U.S. GOVERNMENT PRINTING OFFICE
60-663 O
WASHINGTON : 1986

For sale by the Superintendent of Documents, Congressional Sales Office
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OIL OUTLOOK: PRICE, SUPPLY, MERGERS, IMPORTS, AND TAXES

THURSDAY, JULY 11, 1985

House of Representatives,
Committee on Energy and Commerce,
Subcommittee on Fossil and Synthetic Fuels,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 2123, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. **Sharp**. The subcommittee today begins a series of hearings which will address various aspects of the oil marketplace.

As we are all aware, the recent trend in crude oil and petroleum product prices has been one of steady decline. This comes both as a result of decreased consumption and an increase in worldwide production capacity.

The results of the OPEC nonmeeting this past weekend underscore this trend and increase the probability of continued price decline in the short run. Many observers are talking about $20 per barrel oil.

However, we must be cautious that this short term good news does not cause us to repeat the mistakes of the 1960's and 1970's when cheap energy led to wasteful consumption and insufficient investment in production.

Cheap and abundant energy for the next few years could again be followed by rapid tightening of markets and renewed OPEC control. When it happened before, with devastating impact on our economy, everyone made speeches vowing never again to let the United States be caught unprepared.

On the other hand, the price increases that will follow the present decline may be gradual, may be anticipated by market forces, and may call forth adequate investments in conservation, alternative energy sources, and additional oil and gas production. If that is the case, some of the actions we might take now to accelerate investment in energy supply and conservation could in fact turn out to be costly mistakes.

Those who have been involved in energy policy over the past decade know the difficulty of making energy projections, yet sound planning requires that the projections be made.

We no longer expect exact price predictions from the experts. But I do expect that our witnesses will discuss the key factors affecting our energy future and thus will lay the groundwork for the issues we will discuss in subsequent hearings such as specifically, refined petroleum product imports, energy taxes, and the oil industry restructuring that is underway.

I am happy now to welcome our first panel of witnesses. We have with us Mr. Richard Adkerson, with Arthur Andersen & Co., Mr. Jack Wilkinson, senior economist with the Sun Co., and Mr. Bruce Netschert, vice president of the National Economic Research Associates.

Welcome gentlemen. We will be happy to make a part of our record your full statement in writing and be happy to hear a summary presentation from you now starting with Mr. Adkerson.

TESTIMONY OF RICHARD C. ADKERSON, PARTNER, ARTHUR ANDERSEN & CO.; JACK W. WILKINSON, CHIEF ECONOMIST, SUN CO., INC.; AND BRUCE C. NETSCHERT, VICE PRESIDENT, NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.

Mr. **Adkerson**. Members of the subcommittee, ladies and gentlemen, I am Richard Adkerson. I am a partner in Arthur Andersen & Co. Arthur Andersen is an international professional services firm that provides accounting, audit, tax and management information consulting services.

In 1984, our oil and gas industry services program, of which I am the director, sponsored a study in how oil price forecasts are developed and used. My written statement describes this study and our conclusions and observations as a result of it. During the next 10 minutes I will highlight the study. Copies of our report on the study have also been provided to the members of the subcommittee.

Our firm engaged Cambridge Energy Research Associates to assist us in this study. Cambridge Energy is headed by Daniel Yergin. It specializes in analyzing energy markets and the study was a joint undertaking of our two firms.

During our study, we conducted 125 personal interviews on an anonymous basis with representatives of oil companies, financial institutions, government organizations, and others involved in developing and using oil price forecasts.

Our interviews were conducted in 12 countries throughout the world. As a result of the study, we noted two paradoxes that are associated with oil price forecasts.

For 15 years, oil prices have stubbornly and consistently refused to behave as predicted. Yet businesses, governments, and others cannot avoid developing and using oil price forecasts, simply because oil is the most important commodity in the world.

The second paradox was the uncertainties that are inherent and unavoidable in forecasting oil prices. Yet, over time, there has consistently been a consensus at any point as to future direction of oil prices.

This consensus resulted from what we call the circle of knowledge associated with the oil-price forecasting community. If you go back to the early 1970's, there were relatively few involved in the process of forecasting oil prices, primarily only a few of the oil companies.

Today there is a wide range of organizations involved in this process. Yet, it remains a relatively small world of approximately 200 to 300 serious organizations involved in the process.

Regardless of how oil price forecasts are developed, they use similar fundamental procedures, and common economic data and assumptions. Where there is a community of forecasters and a constant interaction of information between the forecasters, assumptions become even more similar.

In addition to the fact of this circle of knowledge, the very uncertainties associated with oil price forecasts lead to consensus. The uncertainties are such that the consensus tends to develop.

Looking at the history of the past 15 years, we identified five periods where there appeared to be a general consensus in the forecast. This slide shows, in the yellow portion, the actual movement in the oil prices and then the five periods—which we have identified as vintages—of when forecasters tended to have consensus.

Vintage I, pre-1971, is a period that we call easy oil. There were abundant supplies and very little concern about future movement of prices. This ended, of course, with the OPEC embargo, leading to a period from 1974 to 1977 where there were two versions as to what the future trend of prices would be.

One version is what we call the technical fix which tended to dominate here in the United States. There was a view that because of the development of alternative energy sources and technology, the problems associated with the higher-oil prices would ultimately be solved.

In Europe and Japan, though, there was a view that OPEC tended to be here to stay. The prediction was that prices at that point could be expected to rise in the future.

By 1977, these two views converged and we identified a vintage III which we called the coming oil crunch in which, because of the concerns, there was an opinion that, in the long run, prices would tend to rise.

With the second oil shock and the revolution in Iran, the vintage IV was that OPEC was in the driver's seat; 1980 through 1982 was the period, of course, of very high expenditures, on the expectation that prices of oil would continue to rise significantly throughout the decade.

Vintage V, the vintage that we identified when we conducted the study in 1984 and have called OPEC's eventual comeback, was let in by the issue of demand surprise. This is the vintage that we will characterize today as the current vintage, and I will talk about it later.

Each vintage changed as a result of overriding economic and political factors. There are forces at work today that raise questions about the current-price forecasts and their reliability.

When you look at the process of how oil price forecasts are developed, you see that they are built on assumptions from a number of factors. Each of these factors, such as economic growth, has a high degree of uncertainty associated with it.

Putting together the assumptions and the factors to come up with a process leads to an estimate of future oil supply and future oil demand and ultimately to the oil supplies from OPEC and the demand for OPEC oil, particularly from the surplus producers.

It is a multistep process that ultimately involves a balancing act. The final estimate, the prediction of oil supplies and demands, is subject to all the errors that are made in estimating each of the building blocks, and the uncertainties associated with future oil prices are an accumulation of all the other uncertainties.

The present vintage and the present expectations may well not be an unreasonable product of present circumstances.

Again, this was the consensus that developed during the course of our study during 1984. It is shaped by the projections of current circumstances into the future. The basic assumptions are that the excess production and supplies in the world, the sluggish demand for oil in the world will lead to lower prices in the shortrun, but ultimately there would be growth in oil demand and declining production of non-OPEC oil which would force the price up in the future.

The difference in this forecast and the forecast that we saw during the previous vintage has to do with oil demand. During the 10 years ended 1983, the world's economy grew in real terms at 25 percent, but energy demand dropped 3 percent and oil demand dropped 17 percent.

By 1983, it was clear that oil price increases were being affected significantly by demand, to an extent that had not previously been anticipated. Experience continues to show greater flexibility in the relationship of oil and energy use to overall economic activity than we had previously thought.

As an example of this, the forecast for the eventual upturn in the prices of oil continues to be shifted further into the future. This reflects the forecasts of a major European oil company. It shows their change from 1983 to 1984 and the factors that led to that change continue to persist into 1985.

When we look at the consensus forecast of lower prices now and ultimately higher prices in the future, we see forces that can tend to undermine that. We have identified three basic forces of this nature.

One is that demand has fundamentally changed. The world of forecasting tends to be characterized by those who could be called demand skeptics and those who could be called demand believers.

Overall though, there appears to be little confidence in our current ability to really understand in a finite sense what has technically happened to energy demand.

The second factor has to do with the oil industry structure and the commodity pricing of oil. The advent of spot trading versus long term contracts and lower inventory levels has led to a period where there is a more rapid reflection of current changes in economic conditions on oil price.

Then, of course, there is the factor of geopolitical risk. Even today, over half of the world's crude reserves are located in the OPEC countries, and many of the OPEC producers continue to be subject to dramatic social and economic changes and pressures.

As a result of this, we have identified three alternative views of the future. These are views not of what we are saying will occur or predicting will occur but looking at these forces and today's circumstances, they might be alternatives to the current consensus forecast.

The first one would reflect a more sudden and significant fall in prices as a result of weak demand but because of the forces we mentioned, prices would rebound more sharply in the future as supplies become constrained.

The second alternative view would be a sudden rise in prices as a result of some geopolitical accident significantly reducing supplies in the long run. Because of the significant rise in prices and resulting economic and political pressures, a fall-off in prices could occur in the future, to even lower levels.

The third alternative review reflects this commodity pricing. As you can see, we are very careful in how we charted this particular slide. It reflects the fact that oil is becoming more similar to other commodities and the price is reflecting changes in economic conditions more currently, both up and down.

The conclusion of our report was that we should not nor can we abandon the oil forecasting process. Indeed, the uncertainties that are inherent in the process lead to even greater need for forecasts, but the focus should be on how to use and understand the forecast rather than seeking to identify some magic approach to developing a view of the future that tends to be accurate.

Decisionmakers need to learn to live with the uncertainties inherent in forecasts and the one lesson that history should teach us is that we need to avoid placing over reliance on any single line forecast for the future.

Our report was basically prepared to assist those in businesses that are affected by oil prices, and we are encouraging greater involvement by operating management in the forecasting process and in the development of forecasts.

We are undertaking and encouraging further research into the area of scenario planning, a process in which alternative views of the future are considered. We believe by using the significantly greater information processing capabilities that we have today and using techniques such as scenario planning, greater flexibility and responsiveness can be built into the planning process which will ultimately improve contingency planning when the future tends to not be as forecasted.

The future cannot be predicted, but plans can be developed to better prepare for it.

Thank you.

[Testimony resumes on p. 26.]

[The prepared statement of Mr. Adkerson follows:]

PREPARED STATEMENT

OF

RICHARD C. ADKERSON

Arthur Andersen & Co.

Mr. Chairman and Members of the Subcommittee:

My name is Richard Adkerson, and I am a partner in the Houston office of Arthur Andersen & Co. Arthur Andersen & Co. is a professional services organization that provides accounting, audit, tax, management information consulting and educational services to its clients through 176 offices with over 26,000 employees in 45 countries. A significant portion of our practice involves enterprises engaged in oil and gas operations. I am Director of Arthur Andersen's Oil and Gas Industry Services Program, which in 1984 sponsored a study of the process, results and uses of oil price forecasts. The findings of the study were published in December 1984 as "The Future of Oil Prices: The Perils of Prophecy." My testimony today is based primarily on this study, and copies of the study are being submitted separately.

BACKGROUND TO OUR STUDY OF OIL PRICE FORECASTING

Despite the importance of oil and the resulting attention directed to forecasting future oil prices by businesses and governments, oil prices have stubbornly refused to behave as forecasted. The inability to forecast oil prices accurately has led to substantial amounts of unprofitable investments--most conspicuously during 1979 through 1981, when a broadly held consensus of ever-rising oil prices emerged--and has created widespread skepticism about forecasting. Recent events have increased the uncertainty about the future direction of oil prices, as well as the doubts surrounding forecasting and the planning process.

The Oil and Gas Industry Services Program of Arthur Andersen & Co. decided to undertake a major study of how forecasts of oil prices are developed throughout the world and how they are perceived and used by decision-makers in industry and in government. Through this study, our firm sought to provide greater insight into the forces that drive oil prices, to identify and describe the methods and processes of forecasting oil prices and thus to improve planning and investment decision-making.

In undertaking the study, Arthur Andersen & Co. engaged Cambridge Energy Research Associates, an international research and consulting firm widely recognized for its analysis of energy issues. The research project and report are a joint effort of the two firms. The year-long project involved personal interviews with over 125 individuals who produce or use forecasts at companies, financial institutions, professional firms, governmental bodies and international organizations. The data collected from the interviews were complied and the results analyzed in relation to published and unpublished information on oil price forecasting, the oil market and corporate planning.

The price of crude oil is the most important raw material price in the world. Roughly half the world's total energy is provided by oil. Oil constitutes 20% of world trade. Its multiple and massive use makes its price critical to industrial managers and governmental leaders. But the experience of forecasting oil prices has been a frustrating one. Forecasts have always been wrong for some reason or another. Many executives would like to abandon the entire effort, but they cannot. Oil prices are simply too important to business strategies and investment decisions.

Concern with future oil prices spans a broad range of businesses and organizations--oil and gas producers, oil service companies, oil importing countries (concern over trade imbalances), oil exporting countries (revenues provided), the transportation industry, manufacturers, utilities and banks and other financial institutions.

Oil price projections, when correctly understood and used, are an indispensable management tool. But decision-makers must know what to expect and not to expect from forecasts, their limitations and how to use the results in the planning process.

Our research study had several specific objectives:

. Assist executives in understanding and using oil price forecasts;

. Explain better what an oil price forecast is;

. Find out why there have been so many mistaken forecasts;

. Explore the reasons for recurring agreement among forecasters;

. Explain the forces that could change the current expectations for oil prices;

. Identify the factors that will shape the future of the oil industry;

. Help go beyond single-line forecasting; and

Ultimately, to help manage risk in spite of tremendous inherent and unavoidable uncertainties.

For several reasons, our study proved to be especially timely:

. There is now a significant body of experience in forecasting.

. Recent years have shown the need for oil price forecasts to become a more effective planning tool.

. Erroneous forecasts and poor use of forecasts have led to staggering investment losses.

. As a result, there is widespread skepticism about the value of forecasting.

Today, because of the importance of oil prices, a wide range of firms and government agencies prepare oil price forecasts. Nevertheless, the world of oil price forecasting is relatively small. We estimate that only some 200 to 300 institutions actively participate. It is striking that, in spite of the uncertainties involved, forecasters have tended to agree at any point in time. That agreement grows from the fact that forecasters make up a relatively close-knit community. There is a continuing discussion and exchange of opinion, speculation and actual data - a circle of knowledge. The consensus is derived from these contacts and conversations, and the pressures within the forecasting community to conform are very strong.

There are several fundamental reasons for the recurrent consensus among oil price forecasters:

. Forecasters tend to extrapolate present circumstances into the future.

. There is a continuing flow of information at a high velocity through conferences, reports, consultants and trade press.

. Forecasters start from a common body of data and economic analysis, the same four basic factors - economic growth, energy efficiency, non-OPEC supply and OPEC capacity.

. Uncertainty itself is a powerful incentive for forecasters to cluster together.

. The forecaster who strays has a much harder time demonstrating to senior management that his or her work is comparable to and considered credible by others in the field.

Most of those we interviewed readily admitted that there is danger in unquestioned consensus. The history of oil price forecasting has been characterized by periodic and drastic revisions of what had been broadly shared views. The consensus suddenly became inconsistent with certain fundamental characteristics of the oil market. In such an environment, blind dependence on the consensus forecast can actually increase an organization's vulnerabilities, leading to high risk situations.

THE VINTAGES - CONSENSUS IN ACTION

During the past fifteen years, at least five distinct consensuses on future oil prices have existed in succession. No single one has survived for more than four years. Like wine, oil price forecasts of different periods can be classified by vintage.

VINTAGE I: "EASY OIL" - PRE-1971

Energy and oil price forecasting was largely nonexistent during the 1960's. A few vertically integrated oil companies controlled the market. There was substantial excess production capacity and prices were stable. Oil production, it was generally supposed before 1971, could readily expand to meet demand at stable prices.

From about 1971 onward, several developments weakened the consensus represented by the First Vintage of oil price forecasts. First, a rapid and unexpected growth in oil demand occurred. By the end of the 1960's, U.S. oil production had approached physically maximum levels. Surplus domestic capacity disappeared. Middle Eastern producers also were producing closer to capacity.

Planners in one major oil company concluded by 1972 that pressure on supplies could cause political problems in the Middle East and push prices up to $10 a barrel. This met with considerable disinterest and disbelief in the United States.

A significant factor was the changing structure of the oil industry, characterized by the entry of the independent producing companies, especially into North Africa. These firms were not in a strong bargaining position with the host governments. Starting with Libya in 1970, the OPEC countries began to realise their influence on the oil market. A wave of nationalisations and participation arrangements occurred.

The Arab oil embargo of October 1973 was a major turning point for the world oil market. Prices jumped from around $3.00 to approximately $12.00 a barrel in the First Oil Shock.

VINTAGE II: NORTH AMERICA'S "THE TECHNICAL FIX" VERSUS EUROPE'S "OPEC IS HERE TO STAY" - 1974-1977

The First Oil Shock caught most price forecasters by surprise. In response, two versions of a new Vintage II oil price forecast materialized. The North American forecast, "The Technical Fix," rested on several expectations:

- Recession would drop the demand for oil.
- Cartels such as OPEC do not work for extended periods.
- OPEC members would be irresistibly tempted to cheat on production quotas and prices.
- Non-OPEC oil reserves could be developed at costs well below the new world market price.
- The United States' domestic oil production could rise as high as 18 million barrels per day.
- "Synthetic" sources could be found - conversion of coal, shale, nuclear power.

Europeans believed "OPEC is here to stay." Their expectations were based on:

- Belief that higher prices would not decrease demand.
- A history of resource shortages.

- Oil shortages during World War II.

- A mini energy crisis in the late 1940's.

VINTAGE III: "THE COMING OIL CRUNCH" - 1977-1979

In 1976 and 1977, American and European perspectives converged to produce a new consensus. OPEC had not broken apart. The common view was that prices would move up again in the 1980's.

Demand for OPEC crude started to climb rapidly in 1976. For example, Americans, thinking the situation was improving, were switching back to larger cars. Then came the revolution in Iran, the Second Oil Shock. Iranian exports temporarily ceased - a loss to the world market of 5 million barrels per day - followed by a partial resumption of Iranian exports. In the meantime, stockpiling had forced prices up on the spot market. Oil prices reached $30 a barrel, a price not previously expected until 2000.

VINTAGE IV: "OPEC IN THE DRIVER'S SEAT" - 1980-1982

Oil price forecasters became convinced oil could only become more expensive. Prices of $50 to $60 a barrel were predicted by the year 2000. A key consideration in the predictions was anticipated future OPEC production behavior, their willingness to produce. Forecasters assumed OPEC would impose limits to conserve its oil reserves.

Rising prices caused capital to flow into the oil industry, drilling boomed, and a wide range of expensive projects were begun. During 1980 and 1981, many forecasters began to predict that the prices brought about by the Second Shock would somewhat restrain demand. It was not until 1982 that the growing surplus on the world oil market, brought about largely by conservation and efficiency was recognised.

A demand surprise undermined Vintage IV. Energy demand proved far more flexible than had been imagined. From 1979 through 1983, energy demand in the industrial world fell dramatically. In 1983, it was 13% lower than in 1979. The fall in oil demand was even sharper - 19%.

The "Iron Law" linking energy use and economic activity was being disproved day by day. The worldwide recession also was much deeper and more protracted than expected. Beginning in 1980, appreciation of the U.S. dollar sharply increased oil prices to European and Japanese consumers, further contraining both oil demand and economic growth. One further factor emerged - the surge in non-OPEC oil supplies, principally from Mexico, the North Sea and Alaska. OPEC's share of the total free world market slipped from 59% in 1979 to 50% in 1981 and 44% in 1982. OPEC's position in the driver's seat became increasingly less secure.

Forecasters began to agree that the direction of real oil prices was down. The cut in official OPEC prices in March 1983, from $34 to $29 a barrel, removed any lingering support for Vintage IV. Vintage V took its place.

VINTAGE V: "OPEC'S EVENTUAL COMEBACK"

Vintage V vividly displays the importance of demand effects. By 1983, it was clear that oil price increases were having a massive impact in reducing demand. Also, Vintage V reflects the severe economic slump and the expectation of relatively low economic growth for the rest of the 1980's. Vintage V is another consensus forecast, showing flat or declining real oil prices into the late 1980's or early 1990's. Excess production capacity and sluggish demand growth are expected to prevent new price increases. The turning point is estimated between 1988 and 1992.

Other Vintage V assumptions:

. New giant oil fields will not be found.

. Declining real prices will further reduce investment in oil exploration and production.

. Economic growth will be slow to push up oil demand.

But eventually:

. Renewed economic growth will occur in the developing world.

. Non-OPEC production will decline in the late 1980's.

Vintage V concludes that oil will be more valuable in the 1990's than it is today. However, several forces could easily undermine the current forecast.

THE BUILDING BLOCKS OF AN OIL PRICE FORECAST

To understand these forces, we examined the building blocks of an oil price forecast. Most forecasts are constructed similarly, using a relatively small number of common elements. Forecasters generally develop their price predictions by working through the following steps:

BUILDING BLOCK 1: BASIC ECONOMIC CONDITIONS

Predict the level and rate of economic activity. Economic output and production determine the consumption of energy.

BUILDING BLOCK 2: ENERGY DEMAND

Translate economic conditions into demand for energy. The relationship is currently very hard to predict. The "Iron Law" linking economic activity to energy consumption has become much more flexible.

BUILDING BLOCK 3: NON-OIL SUPPLY

Estimate how much coal, nuclear energy, natural gas and so forth can replace oil. This is one of the most difficult parts of the forecasting job.

BUILDING BLOCK 4: OIL DEMAND

Next, estimate oil demand. Oil must meet the demand for energy that all other sources cannot.

BUILDING BLOCK 5: NON-OPEC OIL

Forecast the amount of non-OPEC oil based on the reserve and resource characteristics of existing producing fields. Also, estimate the likely discovery and development of new fields. Non-OPEC producers are generally assumed to produce at maximum economic rates.

BUILDING BLOCK 6: REQUIREMENT FOR OPEC OIL

Since the 1970's, all price forecasting activities ultimately focus on the requirement for OPEC oil. But predicting demand for OPEC oil is the sum of all the preceding uncertainties. The key question is, "What is OPEC's production capacity limit?" Physical production capacity is currently estimated to be about 28-30 million barrels per day. However, forecasters must again consider OPEC's willingness to produce.

If demand for OPEC oil is higher than 75%-85% of capacity, prices generally are assumed to rise sharply. Below 50%-60% of capacity, there are downward price pressures.

BUILDING BLOCK 7: THE BALANCING PROCESS

The final forecast is a balance of the six previous builuing blocks. It is also an accumulation of all the errors which may have occurred in constructing those blocks.

THE NEXT VINTAGE?

Forecasters have moved through four vintages in little more than a decade. Like the previous four, the current Vintage V is also an accumulation of uncertainties. There are several powerful forces that could undermine Vintage V.

ECONOMIC DEVELOPMENT

The signals of economic growth can be interpreted in totally opposite ways. Low and erratic economic growth could mean simply lower oil demand and weak prices. But weak oil prices could encourage consumption, stimulating oil demand and causing price increases in the long run.

High economic growth could mean a surge of oil demand. On the other hand, it could bring about rapid replacement of existing capital assets by more energy-efficient equipment, further reducing oil demand. The mix of the reactions is hard to predict.

GOVERNMENTAL POLICIES

Governmental policies will certainly play a major role in the future direction of the industry. For example, the U.S. Treasury's original tax proposals threatened a significant reduction in domestic oil investment. Such a reduction could further reduce domestic oil supplies and lead to increased dependence on foreign sources, increased balance of payments problems and a risk of sharper price increases.

OIL DEMAND

There is not yet a predictable relationship of energy consumption to economic growth. Conservation continues to change the relationship. There currently is a sharp debate between the "demand skeptics" and the "demand believers." The former believe that conservation will continue to depress energy demand and, therefore, prices. The latter hold that the effects of conservation and efficiency have largely run their course, and that economic growth will result in increased energy demand at a more traditional pace.

STRUCTURE OF ECONOMIES

Developed economies are shifting away from energy-intensive manufacturing toward services. Also, energy intensive sectors are becoming more efficient. Both trends serve to lessen energy demand.

OTHER ENERGY SOURCES

Substitution by coal, gas, nuclear energy and renewables also reduces demand for oil.

NON-OPEC OIL

Between 1976 and 1984, non-OPEC oil production grew by about 8 million barrels per day, reducing the world's dependency on OPEC. A decline in non-OPEC production would shift power back to OPEC. It is possible, however, that new reserves will be found around the world to keep dependency on OPEC to a minimum.

GEOPOLITICAL "ACCIDENTS"

These would include nationalizations, wars, embargoes, revolutions, attacks on tankers and so further. If the past is an accurate indicator, such "accidents" are likely to occur in the future. Their impact on world oil markets is unpredictable, but a major disruption in Mid-East supplies would certainly create shortages and sharp price increases.

STRUCTURE OF THE WORLD OIL INDUSTRY

The rise of OPEC and the shift of power away from the majors in the early 1970's allowed the First Oil Shock. The industry is once again undergoing rapid structural changes. Forces are now making oil more like other commodities.

As a result, prices are more likely to move up and down with greater frequency. There are more extensive trading activities. Over half of world oil trade now moves on the spot market.

The industry is also being changed by:

. Surplus refining capacity.

. Drive to minimize inventories.

. Growth of product sales by oil exporting countries.

. Instability of crude oil differentials.

. Barter.

. Financial restructuring and reorganizations of oil companies.

. Competition among fuels.

. Growth of futures markets.

Oil prices under a commodities/futures system are likely to be more volatile than in the past. The big question outside of OPEC - certainly in the United States - is whether oil and gas producers will be willing to make long-term investments, especially high-cost investments under such volatile conditions.

FINALLY, OPEC ITSELF

The biggest question over the last few months concerns OPEC's ability to maintain cohesion and keep production levels down and maintain prices at close to their current levels. An all-out price war would result in a precipitous drop in oil prices, which could be disastrous for oil producers, oil-based lenders and the development of non-OPEC and alternative energy supplies.

THE NEXT VINTAGE - THREE VISIONS?

It can be reasonably argued that OPEC will hold together, that oil demand will grow at 1% to 2% a year and that the world economy will grow at 3%. But these are not the only reasonable working assumptions; they are not statements of fact, as reasonable counter-cases can also be made. In this environment of uncertainty and rapid change, we constructed three different but plausible scenarios which could replace Vintage V.

The first scenario shows a continued fall in demand - much sharper than in Vintage V. This scenario would presumably lead to further reductions in energy-related investment, which would eventually lead to shortages and higher prices.

The second scenario shows erratic price fluctuations which could result as oil trades largely as a commodity on spot and futures markets.

BEST COPY AVAILABLE

The third scenario assumes a geopolitical "accident" causes a curtailment of Mid-East oil and a rapid run-up in prices. Following the price shock, the market would adjust, causing a return to more normal price levels.

LIVING WITH UNCERTAINTY

Despite widespread skepticism, decision-makers will have to continue to rely upon projections to make investment decisions. Much of the current dissatisfaction with forecasts can be attributed to the ways they have been used. There have been unrealistic expectations about the end products of forecasts. The lack of understanding of the risks and uncertainties of forecasting by the users of forecasts is a major source of frustration to those who produce the forecasts. The focus instead should be on improving the strategic and investment planning process. Decision-makers should identify and recognize the inherent uncertanties and risks and should test various choices and strategies. Decision-makers should become directly involved in the planning and forecasting process. They should have a clear understanding of the risks and assumptions in forecasts. The risks inherent in decision-making can best be addressed with planning tools that recognize uncertainty. We found scenario planning to be such a tool.

A scenario is a set of internally consistent assumptions and relationships that explain or support a particular picture of the future. Scenario planning can be done in three stages:

. First, focus on the environment in which the industry operates, the overall economics, politics and technology.

. Second, focus on the effects of these on the industry.

. Third, explore the financial implications for the organization.

Then:

. Test various strategies against the different scenarios.

. Pick the optimum strategy.

. Make contingency plans in case conditions change.

Scenarios can provide several benefits for decision-makers.

. Legitimize the recognition of inherent uncertainty.

. Highlight the need for managerial judgment.

. Eliminate single corporate doctrines on what the future will bring.

. Accelerate the response time to changes.

. Help develop a common language for uncertainty.

. Allow "unthinkable" or "unpopular" ideas to be tested.

. Encourage creativity among middle managers.

. Help identify and think through the implications of surprises.

It is obvious that even the most sophisticated forecasts alone cannot guarantee survival in the future. Uncertainty, volatility and turbulence are inherent in the future of oil. There will always be unexpected changes and surprises. The best way to survive those changes and surprises is to expect them, plan for them and so be better prepared to take advantage of them.

Mr. **Sharp**. Thank you very much. We now welcome Mr. Wilkinson who is a senior economist with the Sun Co.

STATEMENT OF JACK W. WILKINSON

Mr. **Wilkinson**. Thank you. Mr. Chairman, members of the committee, ladies and gentlemen, my name is Jack Wilkinson. I am the chief economist of Sun Co., a major integrated company out of Radnor, PA.

The rapid rise of oil prices in 1973 and 1974 and again in 1979 and 1980 exerted major adverse effects on the world economy.

The first price shock by most accounts was a dominant force in bringing about the high inflation rates and the sluggish growth which plagued many of the industrialized economies during the later half of the 1970's.

Additionally, the 1979–80 price shock contributed to the 1980 through 1983 world economic slowdown.

World oil prices remained denominated in U.S. dollars. The dramatic increase in the value of a dollar since 1980 has with the exception of Canada and Japan in effect amounted to a further oil price shock for the world market.

For the period 1980 through 1984 for example, the value of a dollar increased some 62 percent.

Today most energy analysts are projecting a future with low growth and demand for oil and thus, plenty of spare capacity well into the mid-1990's, that is, no worry about future oil supply. But what if this viewpoint is overly optimistic?

An examination of recent history reveals that the 4-year period, 1980 through 1983, during which oil demand declined by nearly 7 million barrels per day was also a period of greatly reduced economic activity.

Moreover, the second round of price increases in 1979 and the increase in the value of a dollar certainly added to the incentives to conserve. Roughly half of the reported gain in efficiency and energy use during the last 4 years may instead be decreased utilization or capacity caused by the lack of economic growth.

In addition to the lack of economic activity, a significant proportion of the reduction in oil demand was also due to the increase in nuclear power capacity, a surplus of competing fuels, inventory drawdowns, and abnormal weather conditions.

After the growth pause in early 1985 free world economic activity is expected to increase at an average rate about 3 percent through 1995. The value of the dollar is expected to decline some 20 percent between now and 1990. The consensus average forecast for total energy consumption growth over this period is roughly 2 percent annually.

Free world oil demand is expected to increase about 1½ percent during the same time period.

With these assumptions, free world oil demand does not reach the 1979 peak of 52 million barrels per day until well into the mid-1990's. During the last 4 years stock drawdowns, conservation, abnormal weather conditions, interfuel substitution, and a significant increase in non-OPEC production along with a lower level of economic activity and the increased value of the dollar greatly reduced the call on OPEC oil from about 32 million barrels per day down to 16.

While many of these factors are transitory in nature, the increase in non-OPEC production may be attributable to the previous oil price shocks. Given the long leadtimes required, increases in oil supply in response to increases in price tend to be quite slow.

So, too, supply is slow to drop when oil prices decrease. Much of the increase in non-OPEC supply over the last 3 years and for the next 2 to 4 years is likely the result of the completion of projects which have been underway for several years.

With the price declines of the last 3 years and the general expectation of an oil glut and declining prices for the next several years, investment in oil exploration and development has slowed considerably.

May I have the first slide, please?

Looking at the production for the nonmajor, non-OPEC producers, you see between 1980 and 1984 an increase from about 4.2 million per day to roughly 5.8 or 1.6 million barrels per day.

Notice however that the rate of change peaked in 1983 at roughly 600,000 barrels per day.

So my point is that the increases in supply caused by previous price runups, shown on this slide tends to indicate that the rate of change may have broken and we are already on the down side.

May I have the second slide, please?

If we look at the rest of the free world as a whole including the major Western producers, the same trend is evident. However, the peak in change occurred in 1982 with roughly 1.2 million barrels per day. Over the period the change is roughly 3.7 million barrels per day from where we were in 1980 but again, the rate of change is now diminishing.

Under these conditions non-OPEC suppliers are likely to increase only gradually and only for a short period of time before stabilizing and declining.

By 1990, the consensus view of free world non-OPEC oil production is expected to peak at about 22.5 million barrels per day. Refinery process gains, centrally planned economy exports, and natural gas liquids production, including those from OPEC of about 1 million barrels per day I might say, would make available another 6.5 million barrels per day of supply.

With a non-OPEC supply of some 29 million barrels per day in total then, consensus demand forecasts of about 49 million barrels per day, the overall OPEC supply requirement would total roughly 20 million per day.

It is important to understand that any shortfall in the non-OPEC production would increase the supply requirement from OPEC.

Putting it all together, the consensus forecast is for an increase in free world demand of around 49 million barrels per day with non-OPEC supplies of about 29 million per day.

May I have the third slide, please?

This gives the OPEC required production in 1990 of 20 million per day. What is on the screen at the moment is the current OPEC production capacity along with 1984 production levels. As you can see at the very bottom, capacity is about 27 million per day at the moment.

What is interesting also on this slide is more than two-thirds of the spare capacity is located in three countries in the Persian Gulf area. When matched with an OPEC capacity of roughly 27 million per day assuming the Iran/Iraq war ends, the consensus conclusion is that there is ample supply in 1990 and supply constraint is not anticipated until well into the 1990's.

Under the consensus view, upward price pressures then are unlikely to develop until after 1990. Forecasting necessitates making many, many assumptions as you have heard a few moments ago.

Development of an economic outlook requires assumptions by the forecaster about government policy, foreign trade, exchange rates, oil prices, et cetera. An equally large number of assumptions are required at the microlevel for developing energy and oil projections.

My own view of worldwide supply and demand differs somewhat from the consensus. My assumptions and methodologies are different. Econometric forecasts are more than opinion but the range of outcomes is sufficiently broad such that no one forecast should serve as the underlying basis for company planning or public policy planning.

What are some of the factors that could alter this consensus view that I portrayed?

May I have the fourth slide, please?

The 49 million barrels per day is represented by the middle red line; the consensus average, with the world economic recovery continuing in the 3-percent annual rate of growth range, the dollar weakening and oil prices stable or declining in the near term, a case can be made for a greater than expected increase in oil demand.

In view of these factors, world oil demand could well approach the upper bound of the consensus forecast of some 51.5 barrels per day in 1990 and perhaps more.

May I have the final slide, please?

With this same outlook for non-OPEC supply of 29 million barrels per day, OPEC requirements would be some 2.5 million barrels per day higher or 22.5 million. The first column for the average consensus view in 1990 with OPEC of 20 million at the middle of the page and the second assuming the higher end shows OPEC at 22.5 million.

This level of production would represent an OPEC capacity utilization factor of more than 80 percent. It is significant to note that OPEC capacity utilization of around 80 percent was associated with significant price increases during the 1978 to 1980 period.

Under this condition increasing oil demand would begin to strain oil supply much earlier than the mid-1990's, thereby setting the stage for significant oil price increases and economic disruptions.

With respect to the supply side, while it may be valid to assume that non-OPEC producers will continue to produce at maximum, it is by no means certain that Saudi Arabia may now like to impose a ceiling on production much as Kuwait presently follows. Saudi output requirements in 1990 will be well in excess of 6.5 million barrels per day.

If a ceiling were to be established at this level or lower, market tightness and all that implies could develop much sooner.

Mr. Chairman, thank you for inviting me to testify. I look forward to your questions.

[Testimony resumes on p. 55.]

[The prepared statement of Jack Wilkinson follows:]

TESTIMONY OF JACK W. WILKINSON, Ph.D.

CHIEF ECONOMIST

SUN COMPANY, INC.[1]

Introduction

The rapid rise of oil prices in 1973-1974 and again in 1979-1980 exerted major adverse effects on the world economy. The first price shock, by most accounts, was a dominant force in bringing about the high inflation rates and sluggish growth which plagued many of the industrial economies during the latter half of the 1970s.[2] Additionally, the 1979 price shock contributed to the 1980-1983 world economic slowdown.

World oil prices are denominated in U.S. dollars. The dramatic increase in the value of the dollar since 1980 has, with the exception of Canada and Japan, in effect amounted to a further oil price shock for the world market. For the period 1980-1984, the value of the dollar increased some 62 percent.

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[1] The views expressed in this article are those of the author and are not necessarily representative of a Sun Company position.

[2] Mark, K. A. and Hall, R.E., "Energy Prices, Inflation, and Recession," The Energy Journal, Vol. 1(3), July, 1980, pp. 31-63.

This increase in the dollar, for most countries, completely offsets the price cuts in OPEC marker crude that have occured since early 1983.

Following the 1973 and 1979-1980 oil price shocks, the major result for energy in most of the industrialized world was to reduce dependence on OPEC oil primarily through conservation and interfuel substitution. These efforts combined with a surge in non-OPEC production has reduced OPEC output from 32 to 16 MMBPD. However, the oil price softness of the last three years -- caused in part by these same measures and compounded by sluggish economic activity -- has resulted in a wholesale retreat in the United States from behavior and programs designed to reduce dependence on OPEC oil. Therefore, it is apparent that decisions regarding the long-term stock of capital and alternate energy programs designed to reduce dependency on oil -- on OPEC oil in particular -- are heavily influenced by short-term developments in the world oil market.

The Outlook For World Oil Demand

With some 10 MMBPD of spare OPEC crude production capacity, the current consensus outlook is for near-term supply stability in the world oil markets and slow growth in world oil demand. As a result, most forecasters expect downward real price pressure for the remainder of the 1980's, but rising real prices in the 1990's. Will the world turn out this way? Probably not.

It is fashionable today to deride all energy forecasting activity, given the notorious record of the recent past. However, even with all of the flaws in energy forecasts, they are still important in developing visions of the future. Individual perceptions of the future can have a tremendous impact on consumer and producer investment in energy demand and supply systems. Development of sources of energy takes many years. If unanticipated increases in demand occur, prices will increase rapidly as was the case in 1979-1980 and severe economic dislocations will occur. So, to minimize surprises it is crucial that energy forecasts be developed, alternative viewpoints be examined, and plans made on the basis that even the "best" forecasts will turn out to be incorrect.

Forecasting necessitates making many, many assumptions. Development of an economic outlook requires assumptions by the forecaster about government policy, foreign trade, exchange rates, oil prices, etc. An equally large number of assumptions are required at the micro level for developing energy and oil projections. Since assumptions are not all of equal importance, serious projections based on models should define their underlying assumptions.

Today, most energy analysts are projecting a future with low growth in the demand for oil and thus, plenty of spare OPEC capacity into the mid-1990's. That is, no worry about future oil supply. But what if this viewpoint is overly optimistic? An examination of recent history reveals that the four-year period (1980-1983) during which oil demand declined by some 6.9 million barrels per day was also a period of greatly reduced economic activity. Moreover, the second round of price increases in 1979 and the increase in the value of the dollar certainly added incentive to reduce consumption. Roughly half of the reported gain in efficiency in energy use during the last four years may instead be decreased utilization of capacity caused by the lack of economic growth. In addition to the lack of economic activity, a significant proportion of the reduction in oil demand was also due to increased nuclear power capacity, a surplus of competing fuels, inventory drawdowns, and abnormal weather conditions.

Oil's share of total Free World energy consumption was some 51.3 percent in 1974. Despite the first major price run-up, this share did not decline, but in fact increased to 52.5 percent by 1978. Following the second price shock and the appreciation of the dollar, over the period 1980-1983, oil's share declined from 49.7 to 46.5 percent. It is important to note that nearly half of the energy-using equipment in the Free World uses oil, and so the largest swings will be in oil demand. During economic downturns, the least efficient equipment is the first to be shut down. As economic activity increases, the marginal equipment is the last to be returned to service. Hence, explaining the experience of the last four years in terms of energy efficiency alone is very misleading.

There is no doubt that some structural change away from oil, as a result of the previous price and exchange rate shocks, has already taken place. However, in the United States, declining oil prices and the widespread belief that an oil glut will persist for years has somewhat diminished conservation efforts and is likely to continue to do so.

The benefits to the Free World economy, emanating from the oil market softness of the last few years, were evident in 1984:

- Free World economic growth was the highest since 1976 (some 4.4 percent).
- Free World inflation was the lowest since 1972 (roughly 5.0 percent).

At the same time, some disquieting trends are developing:

- World oil demand registered a 3.5 percent increase for 1984, after four years of decline.
- Investment decisions for alternate energy sources, efficiency gains, and fuel substitution are being slowed considerably, or postponed.
- Expectations regarding slow growth (or even a decline) in oil prices are likely to impede oil exploration and development activity worldwide. Drilling outlays are being cut back in the U.S. and elsewhere.

With the pause in economic growth and the continued strength of the dollar during the first half of 1985, Free World oil demand is expected to experience little, if any, growth during 1985.

After the growth pause in early 1985, Free World economic activity is expected to increase at an average annual rate of 3.0 percent through 1995. The value of the dollar is expected to decline some 20 percent between 1985 and 1990. The consensus average forecast for total energy consumption growth over this same period is 2.0 percent annually. Free World oil demand is expected to increase, on average, 1.5 percent annually. With these assumptions, Free World oil demand does not reach the 1979 peak of 52 MMBPD until the mid-1990's. This consensus projection envisions competition from other fuels and some level of further conservation and improved efficiency gains. Thus, oil's share of total energy will continue to decline.

At the same time that oil demand is rising, albeit slowly, world spare producing capacity will be declining. Thus, incremental oil availability in the longer-term will depend increasingly on the ability and willingness of Middle East exporters to produce. Increasing oil demand will begin to strain oil supply in the 1990's thereby setting the stage for significant oil price increases and major economic disruptions.

Given the foregoing assumptions for Free World economic activity on oil demand, what are Free World oil supply expectations?

The Outlook For World Oil Supply

During the last four years, stock drawdowns, conservation, abnormal weather conditions, interfuel substitution, and a significant increase in non-OPEC production -- along with a lower level of economic activity and the increase in the value of the dollar -- greatly reduced the call on OPEC oil from 32 to some 16 MMBPD. While many of these factors are transitory in nature, the increase in non-OPEC production may be attributable to the previous oil price shocks. Given the long lead times required, increases in oil supply in response to increases in price tend to be quite slow. So too, supply is slow to drop when oil prices decrease. Much of the increase in non-OPEC supply over the last three years and for the next 2-4 years is likely the result of the completion of projects which have been under way for several years.

With the price declines of the last three years, and the general expectation of an oil glut and declining prices for the next several years, investment in oil exploration and development has slowed considerably.

Under these conditions, non-OPEC supplies are likely to increase only gradually, and only for a short period of time before they stabilize or decline. In fact, the amount of increase in the four major western hemisphere sources -- Mexico, Canada, United States, and North Sea -- may have peaked in 1982 at 0.78 MMBPD; registering 0.4 and 0.47 MMBPD increases in 1983 and 1984, respectively. For the rest of the Non-OPEC producers, a peak occurred in 1983 at 0.59 MMBPD with 1984 registering a gain of 0.5 MMBPD. By 1990, the consensus view of Free World non-OPEC crude oil production is expected to peak at about 22.5 million barrels per day. Refinery process gains, Centrally Planned Economy exports and natural gas liquids production (including OPEC) would make available another 6.5 million barrels per day of supply.

With a non-OPEC supply of some 29.0 million barrels per day, the overall OPEC supply requirement would total roughly 20.0 million barrels per day. It is important to understand that any shortfall in the non-OPEC production would increase the supply requirement from OPEC.

Much has been written in the last few years pertaining to the excess oil producing capacity in the Free World of some 10.0 million barrels per day. What is often omitted in the discussion is that (a) the excess capacity is all in OPEC, and (b) some 80 percent of this excess capacity resides in three or four countries in the Persian Gulf. Moreover, the uncertain political situation in this region carries with it the ever present risk of oil supply interruptions.

The maximum sustainable production capacity for OPEC as a whole has been declining since 1979 and was estimated to be 26.8 million barrels per day in early 1985.[3] Obviously this is not a static figure. While reserves are plentiful in OPEC as a group, the majority of the members must make continuing investments to maintain producing facilities and to develop new fields. During the last four years, there has not been much investment within OPEC as evidenced by the number of wells drilled. It appears that oil field investment in OPEC is affected by the same price trends as investment in non-OPEC areas. Faced with declining demand, oil prices, and aggregate surplus productive capacity, OPEC sees little need to develop additional resources.

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[3] Petroleum Intelligence Weekly, Vol. XXIV No. 20, May 20, 1985, P. 8.

From derived historical averages for each OPEC producer, a definable fraction of oil revenues is used for exploration and development activity each year. This reinvestment factor is directly related to the real price of oil. During periods of declining prices, the total investment obviously declines. Obviously, some OPEC countries have urgent needs for oil revenues for other purposes -- social programs, debt repayment, etc.

From the reinvestment figures, it is possible to estimate oil field investment (exploration and development expenditures), total wells drilled, oil wells drilled, producible reserve additions, producing oil wells, and maximum oil production. Hence, maximum sustainable productive capacity can be observed to vary with crude oil price.

Assuming level real prices, and knowing the impact this will have on the minimum reserve-to-production ratios for each OPEC member, maximum OPEC capacity may be expected to remain in the 26-28.0 million barrel per day range for the next several years. This figure recognizes the likelihood of a continuation of the hostilities between Iran and Iraq. If OPEC shares the poor outlook for crude oil prices for the rest of the 1980's, this figure could even be optimistic for the near term. Additionally, several OPEC members may already be nearing short-term maximum capacity levels, given the reported lack of maintenance over the last several years.

Putting it all together, the consensus forecast is for an increase in Free World oil demand to around 49.0 million barrels per day by 1990, and non-OPEC supplies of roughly 29.0 million barrels per day, gives OPEC a requirement of 20.0 million barrels per day. When matched with an OPEC capacity of 27 MMBPD (assuming the Iran/Iraq war ends), the consensus conclusion is that there is ample supply in 1990 and supply constraint is not anticipated until the mid-1990's.

World Oil Price Implications

It has been noted that the pressure of demand against supply was not the only factor figuring in the 1973 price shocks. In 1973, there was a deliberate, concerted holding-back in production. During 1974, there was an excess of oil on the world market, yet prices increased by roughly 50 percent. However, in 1979, demand was high and as a result of the Iranian revolution in 1978 and the outbreak of hostilities between Iran and Iraq in 1980, capacity was tight. This led to panic in the market and price increases of 39 and 66 percent in 1979 and 1980, respectively.

The previous oil crises have illustrated the threat which oil can represent to the level of Free World economic activity. Even if the structural change away from oil is permanent, the basic vulnerability of the Free World economy to oil supply disruptions is far from being eliminated. If growth in oil demand is in the range of the consensus forecast, there will be a continuing risk that a closely balanced supply and demand condition could again in the 1990's be disrupted by political events or operational problems in the Middle East.

At year-end 1984 and into early 1985, world oil prices appeared to be very weak. The world oil market has, in effect, completely frustrated OPEC's attempts to stabilize prices by reducing production. The combined effects of excess Free World crude oil production, excess refinery capacity, and the expectations of little, if any, growth in oil demand has resulted in a general belief that a prolonged period of declining real oil prices is in store.

The current market signals may not be representative of the underlying trend in the world oil market. Moreover, the general expectations of slow growth in intermediate term oil prices have contributed to a new set of uncertainties. Consuming nations increase their vulnerability by slowing down conservation and investment efforts in response to falling oil prices.

Had Iran and Iraq remained fully in the supply system, excess supply conditions and price pressures would have been evident much earlier. For the immediate term, there is a likelihood of further price erosion.

In the current environment, the demand for OPEC oil is under downward pressure from many directions. Furthermore, these pressures are not likely to subside significantly in the near term. Yet, in my view, these same pressures may not support a prolonged period of stable prices. The move towards a flexible quota system and the development of market monitoring procedures suggest that OPEC will make a serious effort to regulate production to meet demand. If demand should grow faster than expected, adherence to calculated quotas by OPEC members could easily result in an eventual price increase.

Under the consensus view upward price pressures are unlikely to develop to until after 1990; however, these pressures could build up earlier if a sizable supply disruption or a spurt in demand were to appear, even on a temporary basis. Such developments would likely again expose the Free World economy to a period of the high inflation, low economic activity cycle.

What are some of the factors that could alter the consensus view?

With the world economic recovery continuing in the 3.0 percent annual growth rate range, the dollar weakening, and oil prices stable or declining in the near term, a case can be made for a greater than expected increase in demand.

In view of these factors, world oil demand could very well approach the upper bound of the consensus forecast of 51.5 MMBPD in 1990. With the same outlook for non-OPEC supply of 29.0 MMBPD, OPEC requirements would be 2.5 MMBPD higher or 22.5 MMBPD. This level of production would represent an OPEC capacity utilization factor of more than 80 percent. It is significant to note that OPEC capacity utilization of around 80 percent was associated with significant price increases during the 1978-1980 period.

Under this condition, increasing oil demand will begin to strain oil supply much earlier than the mid-1990's, thereby setting the stage for significant oil price increases and economic disruptions.

On the supply side, while it may be valid to assume that the non-OPEC producers will continue to produce at maximum, it is by no means certain that Saudi Arabia may not elect to impose a ceiling on production, much as Kuwait presently follows. Saudi output requirements in 1990 will be in excess of 6.5 MMBPD. If a ceiling were to be established at this level or lower, market tightness and all that implies would develop somewhat sooner.

The Need for Policy

My personal view of worldwide supply and demand differs somewhat from others because my assumptions and methodologies are different. Econometric forecasts are more than opinion, but the range of outcomes is sufficiently broad such that no one forecast should serve as the underlying basis for company planning public policy.

The investments and business operations of individual companies must take account of downside risks as well as opportunities for enhanced profits.

In a similiar fashion, public policy affecting incentives to investment or consume should be based on a range of views of the future.

The downward movement in oil prices over the last three years has sent a signal to the world oil market. This signal has resulted in complacency among energy consumers and hesitation among investors. The consequences of this to consumers and investors are likely to be price shocks later in the decade or early in the 90's. The root cause of the false signals lies in the artificial market created by OPEC, which is now faltering because OPEC could not control supply. U.S. government policy should focus on letting market signals get through to the supply and demand side of all energy transactions rather than contributing to further artificiality.

Many years are required to bring new oil and natural gas supplies to market. Likewise, the lead time to develop alternate energy supplies is a very long one. Exploration activity for conventional energy supply, as well as the research and development required for alternate energy supplies, are based on long-term expectations of energy prices, demand, and supply. A degree of stability in energy prices is useful for both consumers and producers to make permanent the efficiency gains won to date and to maintain incentives to investment in conventional, as well as unconventional, sources of energy. But policies to provide stability should be adopted only with extreme caution so that later removal does not lead to even more volatility or worse another sacred entitlement.

Complacency regarding energy security has increased as oil prices have decreased. Moreover, energy security has been overshadowed in the United

States by efforts to reform the tax system and reduce the federal deficit. As a result, insufficient attention has been given to the issue of energy security now just as fear of pain to consumers has done in the past. I believe that we should now focus more on continuing to develop supply rather than preparing to administer shortages which inevitably cause higher prices.

Now given the view that crude oil and natural gas supplies will not continue in excess forever, let me address the public policy issues mentioned in your request for testimony.

First, the strategic petroleum reserve, that is a current public policy in place which is directly focused on temporary supply interruptions or shortages. The purpose is to provide economic security and dampen the volatility resulting from overreaction to shortage or threats of embargoes.

The U. S. strategic petroleum reserve currently contains some 476 million barrels of oil, or nearly two-thirds of the original target amount of 750 million barrels. While we consider additional fill important for overall security of the nation, the current federal deficit dictates a slowdown in the pace of the program. We should, however, continue the program at some very modest fill rate, or institute some other program of assuring operational integrity of the reserve. This would seem a reasonable alternative until fiscal policy regains some discipline. In short, keep the goal but adjust the process by several years.

Product import levels is another issue receiving attention by some in the petroleum industry and some in Congress. The increased level of product imports relates mainly to gasoline since residual imports have shrunk as a function of low industrial production. At current or projected levels, I see no economic justification for quotas, additional fees or strategic product storage. Adequate refining capacity here or in other free world (non-OPEC) countries provides sufficient security.

The National Petroleum Council is currently undertaking a study to define the minimum level of refining capacity needed for national security. Congress should only consider quota or fee systems if imports reach such levels as to cause shutdown of refining capacity below that point, or if producer countries unfairly dump product. We must carefully observe the actions of other importing countries to ensure that they do not adopt policies which force the U.S. to absorb an unfairly large share of these products. In no case should strategic product reserves be considered since shift in demand on a seasonal basis or in some emergency would most likely mean that we are storing the wrong product mix.

Turning to Tax Policy Issues: tax policies can certainly affect the investment required to maintain domestic supply or to dampen demand. The U.S. already has a complex fabric of both tax policies and other regulations which taken in total are more conflicting than complementary to one another. Some producers and fuel sources are favored by legislation passed in previous periods. Likewise, some consumers are artificially benefited by tax policies or other constraints on producers or sellers. Whatever economic logic was evident at the time of legislation has probably disappeared by now leaving only the political constituencies of those favored by one or another law.

Classic examples include the different tax treatment of depletion for major companies and independent producers; the artificially depressed price of "old" versus "new" gas and the multiplicity of categories; and the arbitrary scrubber requirements on new power plants which restrain the use of readily available and environmentally acceptable low sulfur coal.

From an investment standpoint, oil and gas and other equally long-lead time projects require a vision of the future which justifies reinvesting. Sound long-term tax policy is one which retains and stabilizes investment incentives and which taxes consumption as a means of current demand restraint or revenue raising for specific purposes - e.g. highway construction and maintenance or if necessary deficit reduction. But energy taxes for the latter use are sound only if consumption taxes are adopted for a wide range of goods and services.

The foregoing statements are not intended to say that free market solves all problems. Government obviously has a role which is both political and economic. Problems are so plentiful in our society that we should judge carefully which ones should have priority and which of the options for solutions are economically sound.

Outer Continental Shelf development is one means of securing additional domestic supply. Yet a moratoria has been imposed on some of the most promising prospects. The state waters of California have been drilled successfully while federal waters are under moratoria by the Congress. Given the lead times required to discover and develop such resources, the current moratoria may not be in the best interest of the nation. Your committee can make a difference by reasserting authority over energy policy in this area.

Natural gas is one good example of an administered market and the continuing ripple of created problems. Natural gas regulations have caused alternate surpluses and shortages, forced coal down in value beyond the economic balance, and even today has large constituencies for price and allocations which have little economic basis.

Finally, control of SO^2 emissions may be beneficial for a variety of environmental and economic reasons. However, the scientific community is still divided on the merits of the issue and the options for correction are all costly. But if an immediate start on the control of acid precipitation must be made, I would urge:

1. Stepwise control - establish a reasonable and attainable emission standard so that effects can be assessed - go further only if results are demonstrated.
2. Provide for results measurement, not compliance with some process technology - give freedom of choice to the utility or industrial fuel user.
3. Be fair to those who have already borne the increased cost of emission control.

It may be difficult to make political reality fit with scientific fact and economic efficiency, but it is essential that we try in such issues.

In conclusion, sound long-term policies can help ensure that the conditions are in place for a smooth transition towards continued energy use efficiency and the availability of ample supplies of energy to sustain the Free World economic recovery initiated during 1984.

The question is whether continuing efficiency gains and interfuel substitution can be brought about smoothly, or whether they will be forced on the Free World economies by erratic oil price volatility resulting in economic disruptions.

The fundamentals underlying the world oil market remains unchanged. The vast majority of the world's oil reserves are in the Middle East. When one combines the recent declines in reserve additions and reserve-to-production ratios around the world, the failures in Mukluk, Baltimore Canyon, etc. the trends inevitably mean the return of power to the Persian Gulf producers. The mission and dedication of the domestic exploration and production industry to its traditional role of continuing the search for new reserves remains undiminished despite recent discouraging developments. The role of government should be to nurture and encourage this private sector responsibility and commitment, and not unnecessarily impede its effectiveness by imposing moratoria on our most promising OCS areas, levying discriminatory tax burdens or imposing price controls that distort the natural interplay of free market forces.

Congress could perform a valuable function by conducting periodic oversight of private sector performance in maintaining adequate exploration and development capability and reserve balance. Congress could also conduct regular reviews and scrutiny of national reliance on imports and the stability of world markets. The nation will benefit by policies which do not add to the power of monopolies by creating more constraints on trade but by assuring domestic and other secure supply.

Thank you for permitting me to testify today.

TABLE I
OPEC PRODUCTION STATISTICS
MMBPD

	1984 PROD	MAX SUSTAIN	SPARE CAPACITY
SAUDI*	4.9	8.3	
U.A.E.	1.2	2.1	
KUWAIT*	1.1	2.3	
	7.2	13.2	6.0
IRAN	2.2	3.0	
IRAQ	0.9	1.3	
QATAR	0.4	0.5	
ALGERIA	0.7	0.8	
GABON	0.2	0.2	
LIBYA	1.2	1.5	
NIGERIA	1.4	1.8	
INDONESIA	1.4	1.7	
ECUADOR	0.2	0.3	
VENEZUELA	1.7	2.5	
	10.3	13.6	3.3
	17.5	26.8	9.3

* NEUTRAL ZONE'S PRODUCTION (.5 MMBPD) AND CAPACITY (0.6 MMBPD) ALLOCATED EQUALLY BETWEEN SAUDI ARABIA AND KUWAIT.

TABLE II
NON-OPEC PRODUCTION "OTHERS"
(MMBPD)

	1980	1983	1984
C. AMERICA	.21	.18	.18
S. AMERICA	1.05	1.19	1.29
W. EUROPE	.24	.36	.36
AFRICA	.97	1.35	1.55
MIDDLE EAST	.55	.63	.66
FAR EAST	.75	1.13	1.22
AUST/PACIFIC	.41	.43	.51
	4.18	5.27	5.77

	1981	1982	1983	1984
CHANGE:	0.22	0.28	$\boxed{0.59}$	0.50

TABLE III
NON-OPEC PRODUCTION
(MMBPD)

	1980	1983	1984	1934 CHANGE
U.S.	8.51	8.68	8.74	.06
CANADA	1.40	1.34	1.46	.12
MEXICO	1.90	2.67	2.75	.08
NORTH SEA:				
U.K.	1.60	2.30	2.48	.18
NORWAY	.60	0.66	0.69	.03
OTHERS (50)	4.18	5.27	5.77	.50
	18.20	20.92	21.89	.97

	1981	1982	1983	1984
TOTAL CHANGE:	0.55	1.20	0.99	0.97
MAJOR PRODUCERS:	0.33	0.92	0.40	0.47
OTHERS:	0.22	0.28	0.59	0.50

7/11/85

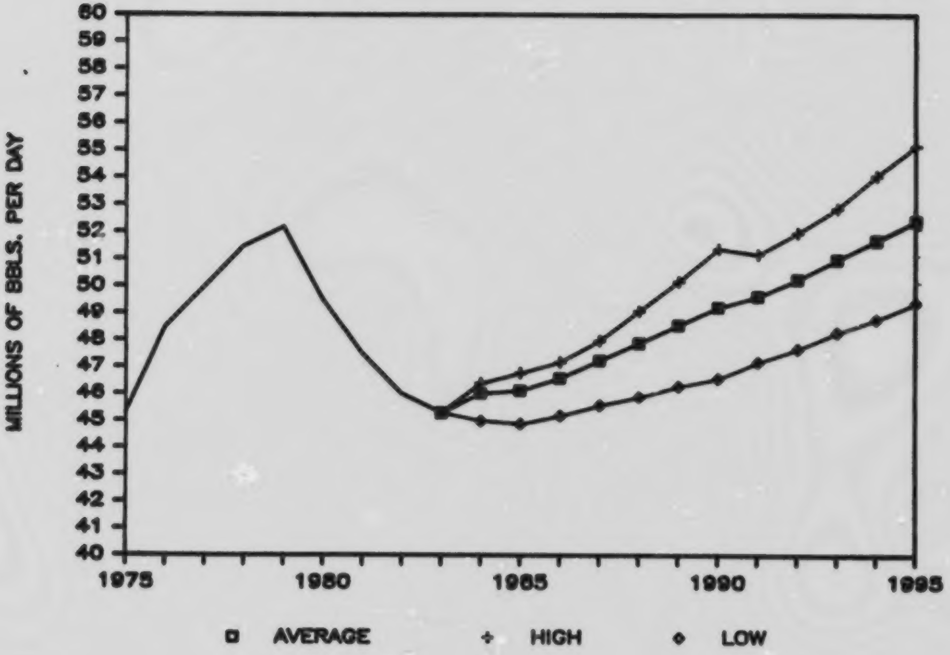
TABLE IV

WORLD OIL SUPPLY/DEMAND BALANCE
(MMB/D)

	CONSENSUS		
	AVERAGE 1990	UPPER BOUND 1990	
DEMAND	49.0	51.5	
SUPPLY			
U.S.	7.8	7.8	
CANADA	1.3	1.3	
MEXICO	3.9	3.9	
NORTH SEA	2.9	2.9	
OTHER	6.6	6.6	
	22.5	22.5	
OPEC	20.0	22.5	1985 MAX 26.8
PROCESS GAIN	1.0	1.0	
CPE	2.0	2.0	
NGL'S	3.5	3.5	
	6.5	6.5	
TOTAL SUPPLY	49.0	51.5	
OPEC CAP.	27.0	27.0	
% UTIL.	75	84	

FIGURE 1

FREE WORLD OIL DEMAND



Mr. **Sharp**. Thank you very much, Mr. Wilkinson. We are happy to welcome now Mr. Bruce Netschert from the National Economic Research Associates.

STATEMENT OF BRUCE C. NETSCHERT

Mr. **Netschert**. Thank you, Mr. Chairman. My name is Bruce Netschert. I am vice president of the National Economic Research Associates. In that capacity and also in my previous association with Resources for the Future, I have been making energy forecasts now for 30 years.

I am happy to be here today in response to the invitation of the committee and give you the benefit of my views.

I agree with the consensus view that has been expressed previously, that circumstances in the 1990's are likely to put OPEC in control of the international oil markets once again after a period of continuing market weakness that will extend probably through the remainder of the 1980's.

I do not, however, believe that this will lead to a repetition of the OPEC price increases of the 1970's. On the contrary, I believe that OPEC pricing policy in the 1990's will be one of moderation.

The key to this will be Saudi Arabia, which will continue to hold the trump card within OPEC as it always has.

In the first place, it is in the Saudis long-term view to have price stability. Taking the long view, they will wish to preserve a large market for their oil in the 21st century when they will still have a great deal of oil to sell.

The last thing they wish to see is a repetition of the reaction to the second OPEC price increase, the excessive increase in 1979, that is a rekindled urgent interest in conservation and the development of the supplemental oil resources throughout the world.

The Saudis have paid dearly for the mistake of 1979 by bearing the brunt of the OPEC production cutback. So, as demand for OPEC oil is resuscitated in the 1990's, they will wish to meet that improvement in the market with increased production rather than with continued curtailment and higher prices and with their huge excess capacity they can do just that regardless of what the OPEC price hawks might wish.

Now I want to make clear that I do not suggest that there will be no rise whatever in the price of oil in the 1990's. As long as international oil is denominated in dollars and as long as there is appreciable inflation in this country such as there is now, it will make sense for sellers of oil like sellers of any commodity to try to keep the real value of their revenues from deteriorating.

So the price of oil will rise in the next decade. There may even be some attempt to regain some of the losses in real price which already total some 40 percent from the 1981 high.

But I do not believe that OPEC will try to restore the 1981 real price. Any real price increase will be at worst minor.

Do I have confidence in this forecast? Well, as I say in my prepared statement I do on the basis of some success on this score so far but I would not be at all surprised if I turn out to be wrong because of events or an event that simply cannot be foreseen.

Reasonable energy forecasts in the 1950's were totally nullified by the wholly unforeseen adoption of pollution regulations in the 1960's and forecasts in the 1960's were similarly nullified by the unforeseen wresting of market control from the international oil companies by OPEC in the 1970's.

I might say this was, I think, the most universally unforeseen thing there was because it was unforeseen even to OPEC members themselves.

Does this mean that forecasts are of no value in the formulation of Government policy? By no means. Well-reasoned forecasts can turn out to satisfactorily come close to the mark in the absence of unforeseen developments.

It is certainly better to attempt to deal with the future however dimly it may be perceived than to make no attempt on the grounds that the future is essentially unknowable. This brings me to the policy implications of my view of the future.

Restored OPEC control of the market in the 1990's does carry with it the potential for repetition of the outrageous OPEC price behavior of the 1970's. I have said that I do not think this will occur but policymakers must take contingencies into account.

To keep the United States from being at the mercy of such action, the logical move would be to have a synthetic fuels capability that would enable a quick response to a huge price increase.

The existence of such capability would forestall such an increase since OPEC would know that it would suffer a massive drop in demand if it attempted anything.

I believe, however, that the creation of a synthetic fuels capability is not warranted on these grounds. The industry would have to be subsidized even at the peak prices of 1981. It is simply not worth the cost.

Better as I see it to bear the risk on this score. If the large price increases eventuate, go the synthetic route at that time if it is then considered desirable and pay the price of some disruption at that time but certainly not permanent disruption.

While undesirable as the effects of renewed OPEC irrationality would be, the true national security threat inherent in dependence on oil imports is a supply interruption. I should note that such a supply interruption is totally independent of the existence of OPEC. The threat would exist even in the absence of OPEC.

So if you want to look at a supply interruption as a threat to this country, I think it is important to distinguish between an interruption of short duration and one that is protracted because they have different policy implications.

The former, that is the short duration, is exemplified by the Arab oil embargo of 1973-74 which lasted several months. Here the countermeasure obviously is the strategic petroleum reserve [SPR]. Now although the current state of the SPR puts us in pretty good shape if the interruption were to occur today, in view of the significantly greater import dependence that will prevail in the 1990's and the larger proportion of imports that will again come from the OPEC countries, it is clear that we should continue to add to the SPR even if only in token amounts during this period of budget constraints.

This takes care of crude imports but product imports are another matter. If our refining capacity continues to diminish, we could find that the usefulness of the SPR during an interruption could be impaired by the inability of the refining industry to process both domestic crude production and the withdrawals from the SPR.

This poses a dilemma. Economic logic reminds us of the cost of compromising with the free trade principle. The inevitable result is higher prices to consumers. Is the gain in national security worth the cost of preserving a larger domestic refining industry than free market forces would dictate? I don't know.

All I can do is suggest that the subcommittee give this question a good hard look.

For a protracted import interruption the SPR is not the answer. The kind of event that I have in mind would be the overthrow of the existing regime in Saudi Arabia, Kuwait or another Persian Gulf exporter by Islamic fundamentalists which would be followed by a sharp permanent curtailment of exports to the West as a matter of national policy.

Unfortunately, it is precisely the countries with the largest export capability, as we have seen on the slides, that are most vulnerable to such an event which would clearly be a severe threat to the national security of this country.

A synthetic fuels capability is obviously the answer to this contingency but not in my opinion the kind of program that the Synthetic Fuels Corporation has put together. The synthetic fuels emphasis should be on a supplement to or even better a replacement for gasoline, which is a real national security vulnerability.

We could make do—admittedly with some inconvenience and hardship—with a severe shortage of heating oils, but a protracted severe shortage of gasoline would be far more disruptive to the workings of our economy. It is simply too vital in our transport.

I suggest, therefore, that the subcommittee give renewed consideration to methanol, which it has already examined in some detail in an excellent staff report. Methanol offers a combination of circumstances and advantages not possessed by any other synthetic motor fuel.

Most important, if produced from coal there is in effect no resource constraint on the supply of methanol. A methanol capability could be developed to whatever degree was thought necessary to provide for national security. Methanol, moreover, could be used in a gasoline blend or even completely substituted for gasoline to whatever degree desired with only minor engine modification.

I recognize the cost problem. Methanol is more expensive than gasoline and certainly much more expensive when it comes from coal.

It seems to me, however, that if it is believed that some protection to massive gasoline supply interruption is needed one can reduce gasoline requirements substantially by strongly encouraging the use of methanol as an octane enhancer.

Methanol for this purpose produced from natural gas is only slightly more expensive than gasoline. The point is, the greater the extent of methanol use in motor fuel, the less is required to expand its use still further. We have at least a leg up in meeting a long duration emergency.

The current accelerated phase out of tetraethyl lead from gasoline offers a special opportunity for growth in methanol use. It is after all the most effective octane enhancer of all the possible additives and it makes far more sense to use methanol than to rely on ethanol which would not even be considered were it not for the massive subsidy that it receives.

So in summary, I believe the United States will not be faced with a serious threat to national security in the 1990's because of dependence on oil imports. If that threat, however, is perceived as something that must be dealt with, the means of doing so completely with far less disruption and at less cost than any other alternative is at hand in the form of methanol.

Thank you.

[Testimony resumes on p. 69.]

[The prepared statement of Mr. Netschert follows:]

Bruce C. Netschert
Vice President
National Economic Research Associates, Inc.

The following addresses the four questions posed by the Subcommittee in its letter of July 2. The first two of those questions ask, in effect, for a long-term forecast of the world oil situation. In answering those questions, I would note first that one of the residual effects of the tumultuous event of the 1970s is what I would term "oil neuroticism." Oil markets have been weak for several years; and, as demonstrated at last week's meeting, in the face of the problem this poses for OPEC, the organization remains paralyzed by its inability to enforce pricing and production discipline on its members.

Yet, for some, this unhappy state of affairs produces unease rather than satisfaction. The better today's price news, the worse it bodes for the future, they say. There are warnings against complacency and the tendency to see the future in terms of the present. Do not repeat the mistake of the 1970s, we are told. Just as it was wrong to see circumstances in the 1980s as a continuation of those of the 1970s, it is wrong to expect the 1990s to be a continuation of today's pleasant state of affairs.

I disagree with the pessimists, nor would I agree that a projection of a continuation of today's oil price levels into the next decade is a repetition of previous error. That error lay in a strange denial of the working of the fundamental forces of economics. OPEC is a victim of its own success, and it could not have been otherwise. The outrageous price increases called into play inevitable massive responses in both demand and supply--conservation and fuel switching on the one hand, and the development of high-cost conventional oil resources and still higher cost supplemental oil resources on the other.

One of the bases for pessimism in the oil outlook is optimism in the economic outlook. World economic growth, says the pessimist, will carry the demand for OPEC oil back to levels that will enable OPEC to exercise market control once again. The argument for prospective strong economic growth throughout the world necessarily rests on optimistic assumptions about which opinions differ. I should note that the World Bank is not very sanguine about Third World prospects. Yet whether or not world economic growth is robust in the 1990s, the implications of that growth for oil demand are not in fact those the pessimist sees. Much of the conservation that has occurred in the 1980s is irreversible. The ratio between the level of economic activity and the level of oil demand has been reduced--permanently. It appears that this change in the ratio accounts for about half of the demand reduction that has taken place since the 1970s. Thus, a given growth rate in a national economy can be expected to result in a rate of growth in oil demand that is only about half the economic growth rate.

This means that world economic growth would have to be unusually robust for there to be large increases in the demand for OPEC oil. A sustained average real growth rate of 3.5 percent per year in the 1990s would constitute blooming economic health, but would mean a growth in oil demand of less than 2 percent per year. In short, it is difficult to see how world economic growth can in itself result in a level of demand for OPEC oil that would approach OPEC capacity and thus restore OPEC's market power during the 1990s, much less in the remainder of this decade.

There is the supply side to be considered, however. The pessimist points to several adverse prospects: The cumulative effects of advanced depletion of U.S. oil resources will substantially reduce this country's productive capacity. The North Sea has passed its peak and, although Britain will continue to be self sufficient during the 1990s, the exportable surplus will dwindle. The Soviet Union will also be unable to prevent a drop in productive capacity; hence the demand for OPEC oil in the Communist bloc will increase. There is nothing to suggest that future discoveries in other non-OPEC countries will forestall this overall decline in non-OPEC capacity. Thus, OPEC regains its position of dominance in world supply.

On the supply side I agree with the pessimists: World reliance on OPEC oil will increase in the 1990s. It is wrong, however, to translate this into higher real oil prices. I referred earlier to OPEC's being the present victim of its own success. All but the extreme price hawks of OPEC--and Saudi Arabia especially--have come to realize that the size of the second major price hike of the 1970s was a disastrous blunder. It elicited demand and supply responses on a massive scale. The lesson to those more enlightened OPEC members is therefore clear: Under no circumstances should OPEC pricing policy reignite the rush to conservation and fuel switching and large-scale development of the supplemental oil resources. The Persian Gulf producers will need a market for their oil in the 21st Century, and they recognize that the larger the market, the easier it is to maintain the internal discipline necessary to exercise market control. And market control is just what OPEC will have by the year 2000. The control will, however, be exercised rationally, not recklessly as in the 1970s.

How much earlier than the year 2000 this reestablishment of market control will occur depends on such things as the timing of the end of the Iran-Iraq war and the rate at which world demand for OPEC oil approaches OPEC capacity. At its peak in 1977, that capacity was over 31 million barrels a day, which is about double the current level of demand. As that demand gets back to 20 million barrels a day there will be a struggle within OPEC between those who will want to start turning the price screw once again and those who will prefer to increase production. Aside from the fact that the latter policy is obviously more rational, it will prevail because those who advocate it will engage in it—as demand rises, so will production.

With continued growth in demand during the 1990s, the point will be reached where most OPEC countries can produce at their capacity, leaving Saudi Arabia, certainly, and Iraq, Iran and Kuwait, possibly, with excess capacity. As this point is approached the mood for price increase within OPEC may well grow, but whatever price increases do occur will be carefully tied to inflation. Perhaps a minor real increase, but nothing significant.

The Saudis will hold the trump card, as they always have within OPEC. Moreover, having borne the brunt of the bad times, as they are now, they will take a dim view of the argument that they should continue to hold back on their production because other producers are at capacity and would like a higher price. The Saudis, in other words, will have the last word by using their production to control the price level. This view puts me in the camp of the optimists. The real price of oil in 2000 should be little if any higher than it is today. The price for the Saudi Light marker crude will thus not regain, in real terms, its 1981 peak of $34.

In its third question the Subcommittee asks whether "accurate" projections are possible and the degree of confidence I have in my own forecast. To answer the first part of the question, few, if any, long-term projections ever turn out to be "accurate" in the sense that the specific numbers forecast for a specific year actually correspond to the statistics generated in that year. This is because even if the forecaster has read the trends correctly and has dealt with the interplay of economic forces with irrefutable logic, some unknown—something wholly unforeseeable—makes the forecast in the end incorrect and perhaps even irrelevant.

Thus, forecasts made in the 1950s turned out to be wide of the mark because of the unforeseen (and unforeseeable) rise of environmentalism and enactment of environmental regulations in the 1960s. This had large effects on the demand for and relative prices of the different energy commodities. Similarly, forecasts made in the 1960s were vitiated by the totally unexpected wresting of market control from the international oil companies by OPEC and the unrestrained abuse of that newly acquired power.

The word "accurate" applied to a long-term forecast may, indeed, have little meaning. There is, for example, the forecast of U.S. coal consumption in 1950 made by an executive of a coal company in 1905. He forecast that all energy consumption in the nation would be coal-based, which was, of course, wildly wrong. His figure for the total energy consumption of the economy in 1950, however, was within 1.5 percent of actual consumption, a feat of astounding "accuracy" over so long a period.

The best one can do is to base one's forecast on what Herman Kahn has called the "surprise free future." The error in the prevailing view of the energy future in the 1970s was not due to the unforeseeable but to the fact that the "surprise" in that view of the future should not have been a surprise.

To answer the second part of the Subcommittee's third question, I have confidence in my current forecast to this extent: Along with a few others in the 1970s I correctly called the turn of events that has led to our current situation. At the same time, I would not be at all surprised if my forecast turns out to bear little relation to the situation that will exist in the year 2000. The likelihood is that something utterly unforeseeable will to occur during the coming 15 years, as it has in the past. Let me give two examples (which, I emphasize, are not meant to suggest their plausibility or likelihood but to illustrate the kind of "unforeseeable" that could come to pass).

An unforeseeable on the supply side would be the discovery, in the face of unanimous opinion that it does not exist, of a new oil province in the world with resources equal to or larger than those of the Persian Gulf. On the demand side would be the development of a nonfuel source of electricity at such universally low cost that it would replace oil products in most of their heat and transportation uses. Either of these would obviously make all current forecasts irrelevant.

Am I suggesting that energy forecasts are of little use in the formulation of energy policy? Not at all. One does the best one can in the interpretation of what is foreseeable. When the unforeseeable occurs--or better, if the unforeseeable becomes foreseeable--one adjusts policy accordingly. As long as the unforeseeable does not eventuate, policy formulation benefits from good forecasts.

In addressing the Subcommittee's fourth question, on specific policy issues, I shall not attempt to cover all those listed in the question. In considering the policy implications of the optimistic view of the oil future it is helpful to distinguish between the two great threats to this country inherent in a large dependence on imported oil: market control and supply interruption. The former is, of course, OPEC power; the latter is totally distinct from OPEC and would exist even if there were no OPEC.

If the optimistic view is correct, the OPEC threat is minimal. To be sure, a cartel price by definition is higher than the price that would prevail in a free market. Even today's price is a cartel price in the sense that if all OPEC members were to produce at capacity, as would be true in a free market, the price of oil would probably be below $10 a barrel. The threat, however, is not the existence of OPEC power but the likelihood of its abuse. The damage done by OPEC in the 1970s was the disruption caused by two price increases of unparalleled size, with unremitting upward movement in the intervening time.

As I have said, I do not think OPEC will repeat its price behavior of the 1970s. I recognize, however, that to the policymaker, who must take contingencies into account, this is not good enough. If OPEC is going to have the power, then the potential for its abuse exists. Does this mean that Project Independence, or its equivalent, should be revived? Do we need a going synfuels industry on these grounds?

In my opinion, no. If irrationality does somehow prevail again in OPEC councils in the 1990s, it can be met at the time. The value of the synthetic fuels alternative is as a potential ceiling on oil prices. Technical feasibility has been demonstrated. On the economic score, the cost of synthetic fuels is above the peak price levels attained by OPEC; thus, if OPEC did repeat its behavior of the 1970s it would be possible to exceed that peak even if there were a going synthetic fuels industry. To be sure, one would expect that continued R&D would reduce synthetic fuels costs, but if it is accepted that the unrestrained use of OPEC market power is unlikely in the next 15 years, to continue with a synfuels program on the grounds of possible large real price increases is simply not worth the cost.

With respect to supply interruption, the important distinction is between one of relatively brief duration and one that is protracted. The former is the kind of contingency for which we have the Strategic Petroleum Reserve (SPR); the latter again raises the matter of synfuels.

The brief interruption is exemplified by the Arab oil embargo of 1973-1974, which lasted several months for the U.S. Statistically, we would appear to be rather well off if this kind of thing were to occur today. Given the current level of the SPR and the level of crude imports, the SPR could take care of such imports from all sources for four months. But our imports in the 1990s will be substantially larger. I think we should continue adding to the SPR, at least at a token rate, given budget constraints.

I am bothered by the product import question, however. Continued erosion of our refining capacity would eventually begin to jeopardize the function of the SPR. Truly large-scale storage of products is infeasible, so if the SPR is to fulfill its function, there must be enough refining capacity to process scheduled withdrawals in addition, of course, to processing continued supplies of crude from other sources under emergency conditions.

This poses a policy dilemma. On the one hand is the nation's historic commitment to free trade; on the other is the national security question. I suggest this issue be given a good, hard look to determine whether national security in this instance may justify compromising free trade principles.

The protracted supply interruption is exemplified by the Iran-Iraq war. It has, of course, had no effect because other OPEC countries were willing to make up for the loss in the beginning, and in the period of demand weakness of the past several years the reduction in available supply from those two countries has actually helped OPEC. The possibility of long supply interruption is a problem for the U.S. for two reasons: First, as our import needs increase, the downtrend in our reliance on Persian Gulf countries will be reversed; for Western Hemisphere sources will be unable to increase their capacity to keep pace with our needs. Second, the Persian Gulf countries are precisely those countries in which a long-lasting supply interruption is most likely. Overthrow of the Saudi regime by Islamic fundamentalists, for example, could lead to the sharp curtailment of exports to the West as a matter of national policy.

Does this contingency justify a synfuels program? Not, in my opinion, the kind of program the Synthetic Fuels Corporation has put together. Our real vulnerability in oil import reliance lies in the threat to gasoline supply. Either there are substitutes for the other petroleum products--other fuels for heating oils--or they are consumed in far smaller volume (jet fuel consumption is less than one-fourth the volume of gasoline consumption). In one way or another, we could meet reasonably curtailed jet fuel needs, but a protracted severe interruption of oil imports would play havoc with ground transportation. So much individual activity is so heavily dependent on the automobile that the results would be highly disruptive.

If the possibility of a long supply interruption is considered to be too great a risk to bear without some kind of offset, I therefore suggest the Subcommittee give renewed consideration to a fuel with which it is already familiar--methanol. In view of the details covered in the staff report on methanol issued last fall, I need not go into details at this time. I would like to emphasize, however, that of the several advantages to methanol as a replacement of gasoline, the greatest is the virtual absence of resource constraint. It would be technically possible, if so desired, to make the U.S. totally self-sufficient in automotive fuel with methanol produced from coal. The second most important advantage is that next to propane, methanol is the closest complete substitute for gasoline with minor engine modification.

I am aware of the cost disadvantage. Although methanol from natural gas would be competitive with gasoline at the peak gasoline prices of a few years ago, it would require even higher prices for coal-based methanol to be competitive. I am also aware of the other strong arguments against methanol: It attacks rubber and plastic engine fittings; it has a lower energy content, and so on. I believe, nevertheless, that it deserves serious consideration as the preferred means of meeting the national security problem in oil.

At a minimum, methanol certainly deserves preference over ethanol as an octane enhancer to replace tetraethyl lead and alkylates. To the extent methanol is adopted as the standard octane enhancer at low levels of concentration--3 percent--the stage has been set for gradually increasing the concentration to 10 percent and higher. Whether or not methanol can ever become economic in the absence of emergency conditions, it remains the only alternative automotive fuel with the unique combination of minimal engine modification and virtually unlimited potential domestic supply.

Mr. **Sharp**. Thank you, Mr. Netschert.

Mr. Adkerson, if I understood Mr. Netschert, basically he said that we should not expect anything more than price rises to stay even with the real value of the commodity in the 1990's, an upward trend but it would be along inflation lines not something more dramatic than that.

My impression, is that you don't agree with that. Am I correct that you expect more price rises in that time? And, I am curious about what you found among the projectors?

Mr. **Adkerson**. Maybe I can comment on the consensus view that we found and then Jack can analyze that. The consensus view in 1984 was looking at flat nominal prices which would indicate somewhat falling real prices and then an upturn in oil prices at a rate greater than the real growth in the general economy during that period.

As I understood it, your point was that it would not rise back to the real price at its height in 1981. I don't know if we were really in conflict there but maybe Jack can talk about the ultimate level to which it would rise.

Mr. **Wilkinson**. Not necessary the ultimate level. The consensus view has declining real prices easily through the rest of the 1980's and into the 1990's as a matter of fact.

Given this would induce more consumption. At some point when the price turns around, I am in agreement with Mr. Netschert that 200- or 300-percent increases in the price of oil, I think are gone forever.

It is one thing to have that kind of increase on $3 per barrel but when you are sitting on $27 or $28 per barrel, it is quite another thing to have a 200- or 300-percent increase.

However, I do expect real increments which would be something in addition to the inflationary rates of the economy.

Mr. **Sharp**. But not so dramatic as to be disruptive? I understand the skepticism of all of you which relates to this.

Mr. **Wilkinson**. When you say not so high as to be disruptive, if it is a 4- or 5-percent real increase and it comes all in the same month, that is disruptive.

Mr. **Sharp**. Yes.

Mr. **Netschert**. May I comment also? I gather that there is somewhat less of a range of disagreement among us than I had thought at the beginning. However, I would like to comment on this business of a modest growth rate in the real price.

It is true that we all seem to agree that we will never see 100- or 200- or 300-percent increases. On the other hand, any real price increase carries with it the potential for encouraging additional conservation and making economic additional marginal reserves and as I see it the rational OPEC members, especially Saudi Arabia, having been once burned, twice burned actually, are going to be extremely careful about any real price increase and they will watch it like a hawk.

On the demand side which has been mentioned as a basis for the idea that there will be severe pressure, let's say, 80 percent of OPEC's capacity would be utilized, the fact that this was accompanied by price increases in the 1978/1980 period it seems to me is a nonsequitur at this point because the increases had nothing to do with the 80 percent level.

What they had to do with was the panic response to the Iranian revolution which would have occurred whether OPEC was producing at 20 percent or 150 percent, whatever it might be.

So I don't see that the increase in the reliance on OPEC oil in and of itself will be enough. Beyond that, I don't see necessarily that there will be such an increase. Remember, a lot of people say that yes, things have changed in the industrialized countries. We have decoupled energy and economic growth but remember the undeveloped countries.

Two things about the underdeveloped countries and their contribution to world demand for oil. One, they are by no means out of the woods yet on their debt problem and anything they do to handle that debt problem directly reduces their economic growth rate. That is the only way they can handle it correctly.

Furthermore, one of the things that has not received much attention but which is going on and is continuing to go on with active United Nations and World Bank help is the development of indigenous energy resources in Third World importing countries so that they will never be in the position if they can help it that they were in and were caught in the 1980's.

So I think that there are a lot of reasons beyond what I earlier said for supporting the idea that there will not be an appreciable long-term real growth rate.

Mr. **Sharp**. Do you find much difference among the people you talk to with that, that there won't be any long term appreciable real price growth?

Mr. **Adkerson**. The view that we were hearing was that there would be significant real price growth rate as demand returned and OPEC supplies dropped off. So I think the question of a significant sudden disruption is something that is really beyond the ability to plan for that far out in the future. If you do have a situation of existing circumstances with a tightening of supplies and demands, then you are vulnerable to political disruptions if they are existing there that could give rise to it.

We did not find people predicting that to occur but it was certainly a situation where the likelihood is that it could.

Mr. **Sharp**. Mr. Wilkinson, did you want to comment on that?

Mr. **Wilkinson**. I can't pass up the opportunity to comment on some of the comments I have heard. First off, it is inconceivable to me that you could have a declining real price and indeed perhaps a declining current dollar price for the next several years along with some demise in the value of the dollar and not expect oil consumption to increase.

Second, if this increase occurs the fact that the prices are declining will indeed provide less incentive to continue to develop oil resources around the world particularly in the United States.

As we get out toward the end of the decade and into the 1990's, the current OPEC membership may be closer to capacity for a good deal of them than we have thought of so far. Yes, they have large reserves but they are mostly in Saudi Arabia, Kuwait, and Iran/Iraq which are still engaged with each other.

The others may be frightfully close to capacity already. I would say that that does not give me a level of comfort as we step 4 or 5 years down the road that no increases will occur or very little.

Mr. **Sharp**. Obviously as Mr. Netschert indicated he is sort of presuming a certain amount of political stability and economic rationality in several of the countries and in particular, Saudi Arabia. Some people might look at us over the last 25 years and say that we haven't been particularly rational or in terms of other countries we may be politically stable but, in fact, our policy has been rather back and forth and all over the lot and whatnot and not exactly stable.

It also strikes me in the Third World countries the scenario of them handling the debt correctly I find more and more difficult to believe. I can't believe there is not going to be political response that is going to see some discharging of some debt one way or another and I don't know how that will impact on your model, but they may still not be able to buy any oil.

Mr. **Netschert**. It is the same net result it seems to me. If they can't handle it, they go belly up economically speaking. They don't have economic growth.

Mr. **Sharp**. True. But let's suppose that we have a quick political action to totally do in American banks and investments in one of these particular countries and that is followed by the replacement of a regime that is then more favorable but we don't any longer have the debt hanging over us so right away within a reasonable period of time people want to reinvest; and it may take a couple of years but I think and I don't know what is going to happen obviously, but I think there is a chance for real chaotic changes that then have some sort of impact.

That doesn't tell me to do something here on energy necessarily but I just think it is going to add to these complications of how to predict what is happening.

Let me just quickly ask you, I am going to have to leave to vote, whether you find that today Mr. Adkerson and Mr. Wilkinson you alluded to it obviously that you have to do the best job you can. You have to make decisions. You have to place bets on where to invest the company's money as the country has to do as well, whether you find that there is a greater skepticism, greater contingency planning, greater sort of looking at options than perhaps existed 15 or 20 years ago in the industry.

I would just guess on the face of it there clearly is that, there is a move away; I mean they are delighted to have your comments in the company and probably involved you deeply, but have to go about making the decisions in spite of what the predictions are. Can you comment on that generalized phenomena?

Mr. **Wilkinson**. We certainly do not use one single line of forecasts within the company. We tend to work more off of a consensus view but within a band not necessarily buying into the average. But you are absolutely right that the contingency planning is orders of magnitude above what it was even 5 or 6 years ago.

Mr. **Sharp**. In a sense don't you think that maybe the system is more flexible as a result and therefore may be able to more quickly respond to market changes than before? I mean, do you think it is a fair characterization that—perhaps like the assumption on OPEC that it would never exist, that the Arab countries would never get their act together, I think was sort of the assumption a lot of people made—that those kind of assumptions are not as easily made these days? That people are a little more quick to try to say we can be wrong and we had better be ready to be wrong, instead of we are right and therefore, boy when we sink a big load of money in here, we expect a big payoff? Have we gained any humility in the process?

Mr. WILKINSON. That is a very difficult question. The costs of uncertainty of course is delay and within the energy business, particularly my industry, the oil business, delay can mean you are postponing drilling decisions, developmental decisions 2 or 3 years and the environment can change very quickly on you.

At the current time you need that activity for development of future supplies, if delayed for price reasons or government policy actions, whatever, you are now in the very difficult position of being 2 or 3 years further behind in terms of having the domestic energy supplies on hand. That is the principal drawback.

Mr. SHARP. I am going to have to run and quickly vote but if you could quickly answer, Mr. Adkerson, I would appreciate it.

Mr. ADKERSON. I can assure you that there is a good deal of humility in Houston right now.

Mr. SHARP. That may have bad results, too, if we get so cautious nobody ever makes any decisions and then we don't have any action.

Mr. ADKERSON. One of the forecasters we talked to said that things are no more uncertain today than they were 15 years ago but he was. The unfortunate thing is, when you start talking about the ability to respond—it is just the nature of the oil and gas industry to have long time horizons for investments—you are just invariably limited as to how flexible a company or a system can be. When you have the sort of changes we have had over the past 15 years a result of those changes is that either somebody is going to make a lot of money or somebody is going to lose a lot of money.

So there are just limits as to how flexible you can make the system.

Mr. SHARP. Gentlemen, I am sorry we are interrupted by the vote and rather than have you wait and come back although I think all of us could learn and I know more of the subcommittee would be interested in following, I think what we will do is let you folks go at this point and we appreciate very much your cooperation and help and after the vote in about 15 or 20 minutes we will begin with our second panel of witnesses.

Thank you very much.

[Brief recess.]

Mr. SHARP. The subcommittee will come to order. We are happy to welcome our next panel of witnesses and delighted to have with us today Ms. Emma Broussard, Mr. Phil Verleger, Mr. Theodore Eck and Dr. Gary Ross. Ladies and gentlemen, welcome back to some of you and we are delighted to hear from you at this time. Dr. Broussard.

TESTIMONY OF EMMA B. BROSSARD, DIRECTOR OF POLICY ANALYSIS, CENTER FOR ENERGY STUDIES, LOUISIANA STATE UNIVERSITY, ON BEHALF OF PETROLEOS DE VENEQUELA, SA; THEODORE R. ECK, CHIEF ECONOMIST, AMOCO CORP.; PHILIP K. VERLEGER, JR., CHARLES RIVER ASSOCIATES; AND GARY N. ROSS, PRESIDENT, CONSULTING SERVICES, PETROLEUM INDUSTRY RESEARCH ASSOCIATES, INC.

Ms. BROSSARD. Thank you very much, Mr. Sharp. It is a great honor to be here and to testify before this committee again. I am sorry that Congressman Billy Tauzin from the State of Louisiana is not present. He chaired the last committee that I testified before in New Orleans.

Mr. SHARP. I am sure he would want to be here but regrettably, there are three or four things going on including a major issue on Superfund which I have a hunch is attracting some attention.

Ms. BROSSARD. Thank you.

Mr. SHARP. Go right ahead.

Ms. BROSSARD. My name is Emma Brossard and I am the director of policy analysis at the Center for Energy Studies at Louisiana State University and I am appearing here on behalf of Petroleos de Venezuela, the national oil holding company of Venezuela, to discuss the vital role which Venezuela has played and continues to play in supplying crude oil and oil products to the United States which it has done for over 60 years.

Venezuela has been a friendly and secure and dependable source of oil for the United States during these 60 years. Today Venezuela imports more than half of its own imports from the United States and these include food, large supplies of agricultural products.

They are very concerned about unwarranted protectionist measures that may foreclose Venezuela's crude oil or finished products from our soils through the use of tariffs or quotas, which will irreparably damage a longstanding relationship which these two countries have had.

Furthermore, there is a direct relationship between the strength of the entire Western Hemisphere and the oil industry and the spread of Cuban-sponsored aggression in this region.

Already the large refineries at Aruba and Curaçao are closing, the Aruba refinery has already closed. The Curaçao refinery closing may be imminent. We are still hoping that it will not.

Because of the central role which these islands play in the Caribbean but specifically to Venezuela as you can see from the map, they are strategically important. In a moment I will step over and point these out to you. Aruba is an island—can I take a microphone over there, it would be easier?

Mr. SHARP. Of course.

Ms. BROSSARD. As you can see from the map of the Caribbean area, Venezuela is here and we have right here Grenada. We have all heard what transpired there in 1983 and in previous years. Right here is Curaçao and Aruba. These two islands are very strategic to Venezuela and the Caribbean and, therefore, to the United States.

There is at present a very large unemployment problem there and with the closing of these refineries it will increase. These two islands will pose a danger to the security of Venezuela. And since they pose a danger to the security of Venezuela, they do to the United States.

The danger to Venezuela is from an unfriendly power taking over these islands. Aruba as I said is no further than Catalina from San Diego in California and if we can envision an unfriendly power like Fidel Castro taking over Catalina in California, you can imagine how concerned the Venezuelans are about what might happen there, because of political unrest, because of the economic problems which they have right now.

Because of this danger which Venezuela faces, if some substitute for the Antilles economy is not found, Venezuela may perhaps return to what it suffered in the 1960's. It is generally forgotten, and perhaps even unknown in this country, what was going on in Venezuela from 1960 onward. For about 10 to 11 years Venezuela suffered from the attempted takeover of the country by Fidel Castro and his guerrilleros.

I would like first to give you an overview of the Venezuelan oil industry and then turn to the dependability of Venezuela as source of oil imports for the United States.

The Venezuelan oil industry is state-owned. The state owns all the stock in Petroleos de Venezuela. There are four operating companies, Lagoven, Maraven, Corpoven, and Meneven. Essentially the oil industry in Venezuela has not changed since nationalization in 1976.

They continue to operate as integrated companies just as our U.S. companies do. Venezuela has the third largest oil field in the world. The Bolivar coastal fields' reserves were 32.2 billion barrels, making it the third largest in the world. By comparison, Prudhoe Bay was only 9.8 billion barrels.

Because of the large reserves that Venezuela has and the future potential of the Orinoco Oil Belt, this is a very secure and very close source of oil for our future.

Therefore, Congress must take into consideration oil import quotas or tariffs that would directly affect the imports from Venezuela.

We obviously need each other. Venezuela needs to export because 90 percent of their exports are in the form of petroleum crude or products, and we need to import both. Venezuela's crude production peaked in 1970 with 3.7 million barrels per day. Their production is now down to 1.5 million barrels—excuse me, their exports are around 1.5 million barrels. Their consumption is around 320,000 barrels per day.

The important thing to remember about Venezuela and its exports is that from 1928 to 1970, Venezuela was the largest exporter of oil in the world. For 42 years, Venezuela was the largest exporter in the world and we tend to forget that and to overlook a very important ally.

I say a very important ally because there was a wonderful saying by Lord Curzon about the First World War, how the allies floated to victory on a sea of oil. During the Second World War that oil was supplied by Venezuela, and I was growing up in Venezuela during those years and my father was with the industry and one of his chief concerns was to keep those tankers full going north.

In the Second World War they were a secure supply of oil. During the Korean War they were a secure source of oil, and also during the Vietnam War, and during the Arab oil embargo. I would like to correct the first speaker this morning who mentioned the OPEC embargo.

There has never ever been an OPEC embargo and we tend to forget that in this country. It is very important to remember that it was the Organization of Arab Petroleum Exporting Countries [OAPEC], that embargoed us in 1973 and 1974. During that period of time, Venezuela increased exports to the United States. They were repaid unjustly by the Congress of the United States that removed trade preferential treatment from them in 1974, and Congress did not restore that trade preferential treatment until 1980, because Congress did not know the difference between OAPEC and OPEC. It took Congress 6 years to find out that it was Venezuela that helped us, as well as some of the other OPEC members, while the Arabs embargoed.

In Venezuela there had been a steady growth of domestic consumption, so after nationalization in 1976, the Venezuelan industry studied upgrading their refineries because their refineries had been built by the foreign companies to supply resid to the United States, and therefore, they could not supply their own domestic increase in consumption.

After studying the pattern of their refining capacity, they upgraded two refineries. Their own domestic consumption has not continued to increase, and because it has not continued to increase as they thought that it would, they now have some excess product for export, which includes gasoline.

It should be remembered that the industry in Venezuela had 12 refineries and of those 12 refineries, they closed 5 and they dropped their capacity by over 200,000 barrels. When your capacity is only around 1.5 million barrels per day, 200,000 barrels is a considerable amount to shut down.

So they are not trying to flood the United States or the world market with products. Their main export continues to be crude oil. They have excess supply now because their consumption demands have not increased as they thought they would.

Venezuela does have a modern, sophisticated refining industry with its four major refineries.

In 1959 the United States, through a Presidential proclamation, imposed the mandatory oil import program and the Venezuelans were deeply hurt by this. Their economy one might say went almost into a tailspin. I was living in Venezuela during those years and I am well aware of the effects of the mandatory oil import program.

It came at a very difficult time because Fidel Castro started his attempt to overthrow the constitutionally elected government of Romulo Betancourt. The United States simply did not take into account the importance of a country, that had helped it during the Second World War and during a very difficult time in its economy, to realize the consequences of a mandatory oil import program.

Venezuela once more faces some very serious problems: The closing of the two refineries on Aruba and Curaçao. The one in Aruba, the Exxon refinery which closed the end of March, and was one of the large refineries in the world, 420,000 barrels per day, that concerns Venezuela. A little island that has half of its GNP that comes from one refinery is severely affected by such a closing. It opens up opportunities for political agitation.

There is a strong movement already on Aruba and one in Curaçao. Unemployment breeds future problems.

It is because of this that President Jaime Lusinchi, when he came to the United States in December of last year, appealed to President Reagan to please do something about trying to help Venezuela and the Dutch, to try to solve this problem of the closing of these two old inefficient refineries.

There is a long tie between Venezuela and these refineries, because these refineries were built specifically to refine Venezuela's oil. Refineries were not built in the early days in Venezuela when Curaçao's refinery was built in 1918, and Aruba in 1929. These refineries were built on so-called safe soil and not on Venezuelan soil.

Venezuela also feels a certain close tie because that was the connection, for the oil and refined products that were sent to the United States.

Finally, I just want to remind you that Fidel Castro has always had Venezuela as his objective in the Western Hemisphere. It is not Angola that Fidel Castro has his targets on, it is not Nicaragua, it is Venezuela because Venezuela offers an incredible opportunity for energy resources.

There is the opportunity to get enormous reserves, not only the oil belt which has the largest known reserve of oil in one place and now has been explored sufficiently to establish the reserves of 200 billion barrels in the oil belt. That is the future ace that Venezuela has in the hole, that we should be very concerned about having in our future.

Venezuela has to develop it eventually and hopefully we will be able to make use of those exports. So we have an old tie, the Bolivar coastal field, and a new development area with the largest reserves of oil in the world. The oil in place has been established at 1.2 trillion barrels. It is seldom ever taken into account, and seldom mentioned in this country when we speak about future oil reserves.

The previous forecasters did not even mention Venezuela's oil. But we think of only Saudi Arabia, but Venezuela, close at hand and an old ally, has an incredible reserve in a 400-mile belt. It is twice the size of Massachusetts.

This is a reserve that is available in our future.

Therefore, with this in mind we should not put Venezuela in danger. It should be of great importance to us what happens on these islands and what happens to Venezuela. It is, and will be in the future, a reserve of oil for our imports.

Thank you so very much.

[Testimony resumes on p. 97.]

[The prepared statement of Ms. Brossard follows:]

STATEMENT MADE BY EMMA B. BROSSARD
AT THE PUBLIC HEARING ON
WORLD OIL OUTLOOK

This material has been prepared by Dr. Emma Brossard who is registered with the Department of Justice, Washington, D.C. under the Foreign Agents Registration Act as an agent of Petroleos de Venezuela, S.A. and its affiliated companies. This material is filed with the Department of Justice where the required registration statement is available for public inspection. Registration does not indicate approval of the contents of this material by the United States Government.

It is a great honor to be able to testify before this committee, again. I thank you for the privilege, and I thank Louisiana's pride and joy, Rep. Billy Tauzin, for the great job he continues to do on this committee and in Congress.

I am the Director of Policy Analysis at the Center for Energy Studies at Louisiana State University. I am appearing here on behalf of Petroleos de Venezuela, S.A., the national oil holding company of Venezuela, to discuss the vital role Venezuela has played and continues to play in supplying crude oil and finished products to the United States. For more than 60 years, Venezuela has been a friendly, secure, and dependable trading partner of the United States. Today, Venezuela imports more than half of its nonpetroleum goods from the United States -- particularly food products. Unwarranted protectionist measures that foreclose Venezuelan crude oil or finished products from our shores through the use of tariffs or quotas will irreparably damage this longstanding relationship to the detriment of both countries.

Furthermore, a direct nexus exists between the strength of the entire Western Hemisphere's oil industry and the spread of Cuban-sponsored aggression in this region. Already, the large refineries in Aruba and Curacao are closed or will be closed by July 31. Because of the central role oil plays in these islands, the refinery closings portend the collapse of these economies and provide fertile ground for political upheaval. Aruba is only 20 miles from Venezuela -- no farther than Catalina Island is off the coast of Long Beach, California. The danger to Venezuela -- and to the United States -- of an unfriendly power that close to Venezuela's coast where most of its oil refining and storage facilities are located is obvious. The United States must recognize that its domestic oil policies regarding foreign crude oil and finished products have the potential for wreaking incalculable economic and political havoc in this hemisphere. The danger to Venezuela -- and,in turn, to the United States -- of action by this country which weakens Venezuela's oil industry that is so integral to Venezuela's economic well-being, is likewise obvious.

Organization of the Venezuelan Oil Industry

The petroleum industry in Venezuela is state owned. The government owns all the stock of Petroleos de Venezuela, S.A. (PDVSA). PDVSA is a holding company that owns all of the equity in the various affiliated companies that manage the exploration, production, refining and sale of Venezuela's petroleum products. Those affiliated companies include Lagoven, S.A., Maraven, S.A., S.A. Meneven, and Corpoven, S.A., each of which deals in crude oil and refined petroleum products. Pequiven, S.A. deals in the manufacture and sale of petrochemical products. Bariven, S.A., which maintains offices in Houston, Texas and The Hague, The Netherlands, procures supplies and equipment on a worldwide basis and resells such supplies and equipment to affiliated companies in Venezuela. Intevep, S.A. is the research and development arm of the affiliated companies within Venezuela. Essentially, the oil industry in Venezuela has not changed since nationalization in 1976 and is organized as fully integrated oil companies similar to the major United States oil companies.

Venezuelan Crude Oil Reserves

Any discussion of world oil supplies must first focus on oil and natural gas reserves. My father, who was a geologist, taught me, not to be overly distracted by the production figures that concern the engineer and the economist. As a friend of mine recently reminded me in Venezuela, "without the geologist, there would be no refiner."

There are four super giant oil fields in the world. The first is the famous Ghawar 86 billion barrel (bbl) field in Saudi Arabia. The second is the Burgan 74.5 billion bbl field in Kuwait. The third, and the only one in the Western Hemisphere, is the

Bolivar Coastal 32.2 billion bbl field in Venezuela. And the fourth is the Safaniya-Kafji 30.5 billion bbl field offshore Saudi Arabia. By comparison, Comarel, the Reforma Campeche field in Mexico had 20 billion bbl, and the United States' Prudhoe Bay field has only 9.8 billion bbl. The United States' proved oil reserves are decreasing. Accordingly, foreign oil sources will become increasingly significant to the United States in the years ahead. Therefore, Congress must keep energy at the top of its list of priorities.

In addition to Venezuela's Bolivar Coastal field, the Orinoco Heavy Oil Belt, located in eastern Venezuela, has reserves of potentially several trillion barrels. There are more barrels of heavy crude oil reserves in Venezuela than there are conventional crude oil reserves in the entire world. The Orinoco Heavy Oil Belt, called La Faja, is Venezuela's "black ace in the hole." This field was first discovered during the early days of exploration in Eastern Venezuela, about 1930, but the size of the reserves were not known until recently.

Mene Grande (Gulf Oil, and now Meneven) spudded the Merey 1, the first La Faja well in 1934. The heavy oil fields operated by Meneven in Eastern Venezuela have been a 51 year testing ground for future operations in La Faja. Formation oil characteristics vary widely in the over 400-mile long Faja, and crudes range from 4° to 20° API gravity, with 2-5 percent sulfur, and with viscosities between 3 to 600 cp at reservoir conditions. Fields have multiple reservoirs of unconsolidated sands. Some areas have light oil in the upper reservoirs and heavy oil in the lower sections.

The world's largest known accumulation of oil-in-place, over a 16,212 square mile area, or twice the size of the state of Massachusetts, will take a massive investment to develop. In 1979, PDVSA started an exploration program to evaluate the reserves in La Faja. Upon the completion of the four year program in 1984, PDVSA established that the area has 200 billion bbl of proved recoverable oil with today's technology and market conditions, out of 1.2 trillion bbl of heavy and extra heavy crude in-place. The Machete zone (Corpoven) contains 500 billion bbl, Cerro Negro (Lagoven) 213 billion bbl, the Hamaca area (Meneven) 214 billion bbl, and the Zuata (Maraven) 225 billion bbl. PDVSA expects La Faja to be the source of 500,000 b/d of the 2.8 million b/d of Venezuela's oil production in 2000. In 1984, production from La Faja was 120,000 b/d. Of the two largest projects, Lagoven's $8 billion, 125,000 b/d project known as DSMA (Development of Southern Monagas and Anzontegui) in the Cerro Negro area, is on hold, except for a pilot project. Meneven is proceeding with its Guanipa 100+ project in the Hamaca area. Transportation costs for La Faja oil, estimated at $4-6/bbl, have discouraged Venezuela from developing the region vigorously in today's market of declining prices.

While economic factors are currently restraining the development of Venezuela's "ace," the future for recovering and marketing Venezuela's heavy crude is bright because of new worldwide installed conversion capacity. By conversion capacity, I mean the ability of a refinery to produce light petroleum products such as gasoline from heavy crude oils. The United States has changed from being a refiner of only sweet crude, to having new conversion capacity and, therefore, can continue to be the main purchaser of Venezuela's oil. These imports from Venezuela will become more important as United States production declines in the years ahead. We obviously need each other!

Production

Venezuela's production of crude oil peaked in 1970 when it reached 3.7 million b/d. In that year, the United States also had its highest production level. Annual production of crude oil in Venezuela in 1984 averaged 1,517,000 b/d. Attached as Table 1 is a ten year summary of Venezuelan production.

The Dutch and English, i.e., Royal Dutch-Shell, were the first to gain a lead in exploring and developing Venezuela's large oil fields. In 1912, Henri Deterding bought Caribbean Petroleum Company (a subsidiary of General Asphalt Co. of Philadelphia) one of two United States companies, which were the first to get concessions in Venezuela. Caribbean Petroleum had the Valladores concession, in which the Mene Grande field was located. The second company that Shell acquired was the Colon Development Company, Ltd. that had obtained the Andres Viga concession, which covered the entire District of Colon in Zulia, about 5,000,000 acres. The third Shell subsidiary, Venezuelan Oil Concessions, Ltd. (VOC), controlled 2,500,000 acres in the Maracaibo Basin, i.e., property on both sides of the Lake.

Shell's Zumaque-1 well in the Mene Grande area became the discovery well of the Maracaibo Basin in 1914. The first Bolivar district producer, Santa Barbara, No. 4, was completed on December 13, 1917. World War I slowed development of Shell's newly discovered oil fields. In 1917, the first foreign shipment of oil occurred. The famous Shell well, Barroso No. 2, in La Rosa field blew out on December 14, 1922, with an estimated flow of 100,000 b/d.

After the success of La Rosa field, Venezuelan Gulf Oil Co. was organized and obtained concessions from the Creole Syndicate in the Kilometer Strip in 1924. Lago Petroleum was organized in April, 1923 and acquired concessions from 20 Venezuelan citizens (who had received them from General Gomez). The Lago concessions consisted of 2,900,000 acres, i.e., the entire bottom of Lake Maracaibo, with the exception of the Kilometer Strip. By 1928, Venezuela was the largest oil exporter (mostly Shell at this time) in the world, and remained the largest through 1970 -- for 42 years. Between 1917 and 1982, Venezuela's cumulative oil production was almost 39 billion barrels of which 90 percent was exported.

Royal Dutch-Shell, Standard Oil of Indiana (Lago), and Standard Oil of New Jersey (Exxon) were the three big competitors in Venezuela for production areas and markets. Royal Dutch-Shell lacked oil in its home territories, i.e., in Holland and England, and was obliged to seek it elsewhere, while Standard Oil's main production was in the United States, although less so after the break-up of Standard Oil in 1911. The large United States companies did not become interested in Venezuela's oil until after World War I ended.

Refining Industry

Although the oil industry in Venezuela was developed and dominated by foreign oil companies for 60 years, its origin was Venezuelan. In 1882, in the Andean state of Tachira, a small Venezuelan company called La Petrolia drilled the first well and installed a small refinery to produce mainly kerosene, on Manuel Antonio Pulido's hacienda La Alquitrana. A severe earthquake in nearby Cucuta, Colombia, in 1875, produced considerable oil seepage at La Alquitrana, and La Petrolia was organized in 1878 to produce this gift from the earth. The kerosene was used for illumination in the small nearby Andean towns, and the first Venezuelan exports were made to Cucuta and Pamplona, Colombia. Products such as naphthas and heavy fuels were discarded for lack of markets.

The modern era of refining in Venezuela did not begin until 1917, when Shell Oil (Caribbean Petroleum) built a plant on the east coast of Lake Maracaibo in San Lorenzo and laid the first pipeline from the prolific Mene Grande fields to the refinery. The initial capacity of the new refinery was 2,000 b/d. It was enlarged to 30,000 b/d in

1939. Other small refineries were subsequently built by the new foreign oil producers to satisfy their own needs. The Caripito (Jersey/Creole) refinery in eastern Venezuela was built in 1931 and enlarged in 1939, to 15,000 b/d. Only a few Venezuelan refined products supplied domestic demand.

Instead of building refineries in Venezuela, the companies built them in the Dutch islands of Curacao (1918) and Aruba (1929). Besides being the first to penetrate Venezuela's oil wealth, Royal Dutch-Shell also set the country's refining pattern, by refining its Venezuelan crude on the nearby Dutch island of Curacao. Shell's refinery in Curacao was started-up in 1918, and it shipped its Venezuelan crude in its specially designed vessels to the Netherlands West Indies to be refined. Dominion Gulf (Mene Grande) and Lago followed Shell, and sent their crude oil to Curacao. After United States oil companies became entrenched in Venezuela, and after the United States government's negotiations with the Dutch over United States oil exploitation rights in Indonesia, a second major refinery was built in 1929; this one by United States companies, on the nearby island of Aruba.

These refineries became a deterrent to the construction of refineries in Venezuela, and deprived Venezuela of a series of economic, fiscal, and social advantages. However, there were political and economic reasons for building the refineries on Curacao and Aruba. The decision on siting the refineries was entirely in the hands of the oil companies because there was no real interest in Venezuela in the oil industry. Labor strikes in the industry occurred in 1925, and the companies thus felt less secure in making a major investment such as a refinery in Venezuela. In gaining their oil concessions, the oil companies had dealt with President Juan Vicente Gomez and his friends, who gave impetus to the development of the oil industry in Venezuela, after he gained power in 1908, and until his death in 1935.

President Gomez was concerned with the development of too much power in the western state of Zulia where production was located; and therefore, did not object to the refineries that were built on the Dutch islands. Article 36, No. 1, of the Law of Hydrocarbons of 1922, imposed a tax of 2.5 percent of the gross profits on refining operations. The tax was abolished in 1928 in order to promote the refining industry in Venezuela.

Because Venezuela lacked a positive refining policy between 1917 and 1935, under the government of President Gomez, oil companies were not legally obliged to refine in Venezuela. During this period, oil companies built small primary distillation or topping plants, near production areas, or ports, to meet local demand.

After World War II began in September, 1939, the Venezuelan flow of oil to Europe was temporarily curtailed. The oil companies found new outlets in neighboring South American countries. When the United States became involved in helping the Allies, it started importing more oil from Venezuela in 1941 and shipping it to Europe. The United States lowered its tariff on oil imports 50 percent, i.e., to 52 1/2 cents/bbl for motor fuel (1 1/4 cent/gal); and 10 1/2 cents/bbl for 25° and above API gravity crude.

Venezuela was made aware of her vulnerability in two ways during World War II. The Caribbean was no longer safe for Venezuelan oil in tankers moving north, nor for Venezuelan oil being refined on Curacao and Aruba. Nazi submarines not only torpedoed ocean-going tankers, but shelled the refineries on Aruba and Curacao. Lago, Shell and Gulf worked together to transfer oil from the Lake to the Dutch islands, sending the "lakers" in tight convoys with armed escorts and only traveling out of the Lake at night. On February 14, 1942, U-boats within sight of the Venezuelan shore destroyed seven tankers. This was the beginning of a constant harassment during 1942 and early 1943, and fewer tankers were sent to pick-up Venezuelan oil. Storage tanks in Venezuela filled up, wells were shut in and production dropped to its lowest level since the Depression.

It was time to build refineries in Venezuela to refine Venezuelan crude. It was the beginning of the end of Venezuela's oil industry colonialism, which had been fostered by President Gomez in order to encourage development. The government now demanded a 50-50 share of oil profits with the oil companies, i.e., a better share of the income from the country's oil production. And Venezuela wanted to refine some of its own crude production and share in the profits from oil products, as well as supply its own domestic market.

In 1943, the government of Isaias Medina Angarita (1941-1945) presented Congress with the important new Hydrocarbon Law of 1943, that was to remain in effect until the oil industry was nationalized in 1976. Under chapter 1, section 5 of the 1943 Law, the oil companies, when receiving new concessions, had to agree to construct new refineries, or expand existing ones, in Venezuela, and refine up to 15 percent of domestic production. Venezuela's three big refineries were built as a result of this law. Shell and Creole (formed in August, 1943, out of Standard Oil of Venezuela and Lago) chose the Paraguana Peninsula as their refinery location, and Gulf chose Puerto La Cruz, in eastern Venezuela.

The Paraguana Peninsula was a wasteland, constantly swept by the tradewinds, about 120 miles north of Maracaibo. Shell selected Punta Cardon with a natural deepwater port, and Creole selected Amuay, a few miles to the north but with a harbor that needed dredging. There was no fresh water and no roads on the peninsula.

They brought water in by tanker at a cost of $.55 a barrel, until they were able to lay a 30-inch water pipeline from the mainland. Creole and Shell each built an entire industrial community on the peninsula.

In 1976, because of a steady growth in domestic consumption, PDVSA started planning the systematic upgrading of its refineries for the sale of products within Venezuela. The four largest refineries in Venezuela under the four subsidiaries of PDVSA (Lagoven's Amuay refinery, Maraven's Cardon refinery, Corpoven's El Palito refinery, and Meneven's Puerto La Cruz refinery) were carefully studied in order to convert them to yield larger volumes of gasoline and distillates, as well as substitute heavy crudes for the light and medium crudes in the refinery runs. Although Venezuela has made substantial investments in order to improve its capability to refine the heavier types of crude oil that are found domestically, its investment in more sophisticated refineries should not be interpreted that it intends to flood the world with refined products. As a matter of fact, Venezuela has reduced its overall capacity by 200,000 b/d by closing five older and less efficient refineries.

Today, Venezuela's refining industry is as modern and sophisticated as any in the world. It has the crude oil reserves to continue to be a reliable and stable supplier of petroleum to the United States as it has been for over 60 years.

Imports From Venezuela

Venezuela was the major supplier of oil for the United States and her Allies during World War II, during the Korean War, during the Vietnam War, and during the Arab Oil Embargoes. Between 1928 and 1970, Venezuela was the largest exporter of oil in the world.

The oil quotas that the United States imposed in 1959 affected Venezuela the most as the major supplier of United States imports. By imposing quotas in 1959 on Venezuela's oil, which was and still is its major export (90 percent), the United States seriously injured Venezuela's economy. The quotas disrupted the Venezuelan economy, at the very time that Venezuela was confronted with guerilla warfare and faced Fidel Castro's first attempt to subvert another country.

The United States' stated reason, i.e., national security considerations, for imposing quotas was just as questionable then as it is now. Venezuela, on the other hand, did have serious security problems, which were far more real than the United State's excuse for protecting independent producers. Faced with no alternative, Venezuela organized the small producers of the Persian Gulf into the Organization of Petroleum Exporting Countries (OPEC).

Although Venezuela is still the largest source of United States oil products imports (residual fuel oil, gasoline, diesel and asphalt) and exports more products to the United States than crude, (see Tables attached) Venezuela, since nationalization in 1976, has been developing new product market outlets in both Hemispheres. Venezuela is not planning or building refining capacity for the purpose of exporting products. Therefore, there should be no fear that a tidal wave of refined products will be arriving in the United States from Venezuela, now, or in the future. In 1984, only 5.6 percent of total United States gasoline consumption (including blending stocks) was made up of imported motor fuel, and Venezuela's share was only about 1 percent.

Venezuela is the largest source of gasoline exports to the United States, with some 50,000 b/d in 1984. Venezuela's residual fuel oil exports to the United States peaked at 595,000 b/d in 1973. Thereafter, residual fuel oil exports declined after United

States Federal legislation mandated clean air regulations. Venezuela now has gasoline to export because Lagoven and Corpoven upgraded two of their refineries, i.e., Amuay and El Palito, in order to satisfy domestic consumption which has not continued to rise as anticipated and utilize their more abundant heavier crudes. As mentioned earlier, Venezuela has shut down 5 of its 12 refineries and reduced its capacity by 200,000 b/d. Venezuela is operating its remaining refineries at less than 70 percent of capacity.

Venezuela's refineries in 1973 yielded 64 percent residual fuel oil and only 16 percent gasoline. With the decline in the United States' demand for residual fuel oil, Venezuela upgraded two if its major refineries and no longer exports large volumes of residual fuel oil, as it did when it exported 595,000 b/d to the United States in 1973. Today, Venezuelan refineries yield 33 percent residual fuel oil, 30 percent gasoline and naphthas, and 22 percent middle distillates. The balance is comprised of product, such as lubricants, coke, and asphalt.

Venezuela's Concerns

The oil industry in Venezuela is concerned with the increasing cries of protectionism from the United States. The calls for quotas or tariffs on imported products and/or crude oil remind Venezuelans of the late 1950s when the United States imposed the infamous Mandatory Oil Import Program. Venezuela understands that the United States supports free trade and wishes to insure that free and fair trade is maintained. Accordingly, PDVSA urges the United States not to adopt any measure which would restrict the importation of Venezuelan crude oil or finished products.

Another concern of Venezuela, which it believes is not receiving appropriate attention in the United States, is the closing of the refineries on Aruba and Curacao in the Netherlands West Antilles. The Exxon 420,000 b/d (Lago) refinery on Aruba provided roughly one-half of the GNP of Aruba and the Shell 320,000 b/d refinery on Curacao provided roughly 30 percent of Curacao's GNP. The closing of these refineries and the collapse of the islands' economies presents an opportunity to Fidel Castro and others who oppose the United States.

The situation in Aruba and Curacao cannot be ignored. Within a radius of a few miles, Venezuela and the Dutch islands have close to 2 million b/d of refining capacity and 100 million barrels of storage capacity. Most of Venezuela's refining capacity juts out on the Paraguana Peninsula toward the islands, and additional capacity is nearby at Puerto Cabello and along Lake Maracaibo. Venezuela's two largest refineries, Amuay and Cardon on the Peninsula, are very close to Aruba.

President Jaime Lusinchi sent a letter to President Reagan on October 31, 1984, asking for collaboration in offsetting the effects of the Lago (Exxon) closing in Aruba. He also visited Washington early in December last year, to discuss with President Reagan the planned closure of the oil refineries. It would seem little was accomplished, because the closing of the Exxon refinery on Aruba took place March 31, and now the Shell refinery on Curacao will probably close on July 31, after a one month reprieve from the June 30 closing date. The United States appears to view the situation as a Dutch concern.

Both the Exxon and Shell refineries are old and inefficient. The restructuring of the refining industry worldwide indicates that these refineries should be closed. But we cannot ignore the severe unemployment problem and the economic chaos that their closing will cause.

On Aruba, some 900 employees lost their jobs when the refinery closed in

March. The island already had an unemployment rate of about 20 percent without the added economic and political problems the closing of the Lago refinery created. Besides the 900 Lago employees out of work, an additional 500 suppliers were affected.

In anticipation of having to close its refinery in Curacao, Shell began in early 1985, to transfer and relocate people. In March, 1985, with a 1,950 workforce on the island, Shell tried to cut back by laying off hundreds of employees, and by cutting wages by 15 percent. Shell petitioned the Dutch Antilles government, also, for the elimination of the minimum tax (whereby the company was paying taxes while suffering losses), and a Curacao government investment in the refinery. It asked Venezuela's Maraven to increase its processings runs of 120,000 b/d (90,000 b/d heavy, 30,000 b/d light and medium) by 50,000 b/d. Shell's 320,000 b/d capacity refinery simply needed more crude. In March, its throughput was 170,000 b/d. The new date for the closing of the Shell refinery is July 31, and without the package that Shell insists on, in order to continue operating, the oldest refinery in the Caribbean will close.

It has been suggested that Venezuela invest or purchase the refinery, because there is a long historical and geopolitcal tie. Venezuela has not turned its back on the island but Venezuela has spent nearly $2 billion in upgrading its domestic refineries and has sufficient refinery capacity. Even if Venezuela did not presently have a large external debt, it simply cannot buy equity in an old refinery in order to bail it out.

It must be remembered that Castro made Venezuela his first target for a communist takeover when Romulo Betancourt was President of Venezuela (1959-1963). Some of us who lived in Venezuela during those difficult years will never forget Castro's and Che Guevara's *guerrilleros*. We know what terrorism is on a daily, weekly, and yearly

basis! Because of past experience with Castro, with the past danger from Grenada, and with memories, too, of World War II, Venezuela has tried to mobilize both the United States and Dutch governments to find a solution to the imminent collapse of these two small economies.

For ten years Fidel Castro's guerilleros tried every possible way to overthrow Venezuela's constitutional government. Bombs were thrown in theatres and supermarkets, policemen were shot on street corners from speeding cars, in trains guerrilleros machine-gunned women and children, children of prominent families were kidnapped, oil pipelines were repeatedly blown up, and people were threatened with death if they voted in the national elections! But the Venezuelan people perservered in their support of their government, and the guerrilleros failed to gain support in the rural or urban areas.

Pompeyo Marquez, one of the guerrillero leaders later admitted that the guerrillas did not understand the reality of the situation in Venezuela. The economic and social structure of Venezuela is unique. Venezuela did not develop a strong class structure in its early history because Venezuela was less important to the Spanish than was Mexico and Peru. Therefore, Venezuela traditionally has been a relatively mobile society. Furthermore, it has oil wealth, as well as iron ore and other mineral wealth, and the highest GNP per capite income in Latin America with $4,220 in 1981, compared to Mexico's $2,250. Practically all Venezuelans improved their standard of living in the 1960s and 1970s.

Venezuela has a democratic government, whereby presidents are elected every five years from the two major parties. The government follows the Constitution of 1961, and is elected with the active participation of the people. In 1963, the guerilleros failed to disrupt the elections and by 1967 the armed movement in the countryside had been crushed.

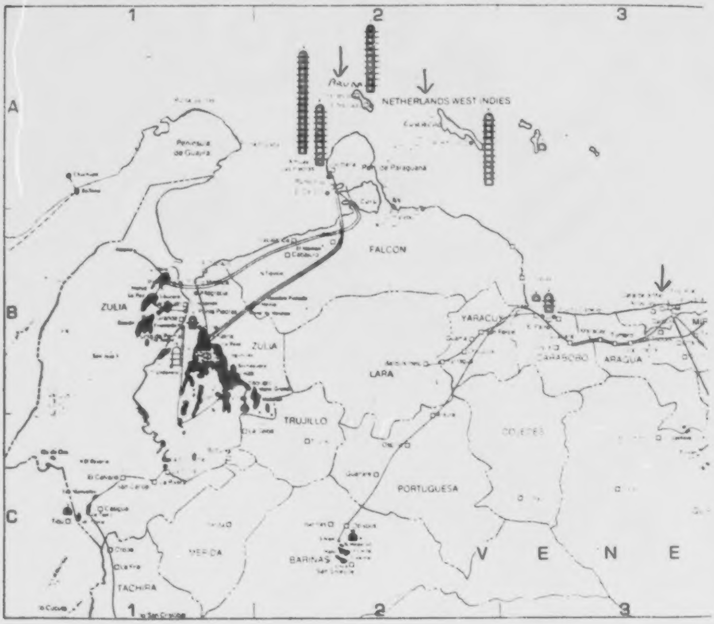
Venezuela -- not Angola or Nicaragua -- has always been Fidel Castro's primary target. Venezuela has the oil reserves and production to wage or prevent war in the Western Hemisphere. The United States and its Allies knew this during World War II, and the Soviets and the Cubans seek this strategic resource. Thus, we cannot be casual and disinterested at what is happening in Aruba and Curacao. Do we wish to wait until the islands become a fait acompli like Grenada and then spend lives and money to rush in and "save it." Surely a country that once came up with a Marshall Plan for a continent can come up with a plan to help two little islands in our strategically important Caribbean Sea.

The recent experience in Grenada reinforces the points noted above. Grenada is 62 miles off Venezuela's coast. Because of the Cuban construction of a large airfield at Pt. Salines with a clear military intent and the Cuban involvment in an island so close to Venezuela, the Venezuelans sought a means to defend their country. The government of Luis Herrera Campins discussed with the Reagan Administration the purchase of 24 F-16 fighters, at a total cost of $615 million. President Herrera, on a trip to Washington, in November 1981, made clear that Venezuela did not want "war surplus." "We are not a market for scrap." If Venezuela had to contend with new Soviet Mig-23's based in Grenada, which could cover all of Venezuela, then Venezuela would find a means to defend her oil fields, refineries and oil installations, and her people.

Conclusion

For the reasons stated herein, I urge this subcommittee to consider carefully and fully any efforts to restrict the importation of Venezuelan finished petroleum products or crude oil into the United States. Any restriction on such imports will result in an extremely adverse reaction politically and economically in Venezuela. Further, the United States must concern itself with the situations developing on Aruba and Curacao. We cannot permit those key islands to come under the domination of power whose interests are adverse to Venezuela and the United States.

LATIN AMERICA SOURCE: International Petroleum Encyclopedia - 1975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LARA
CARABOBO
ARAGUA
TRUJILLO
COJEDES
PORTUGUESA
MERIDA
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TRINIDAD
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Pen. de Paria
SUCRE
MONAGAS
ANZOATEGUI
DELTA AMACURO
BOLIVAR
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TABLE 1

VENEZUELAN CRUDE OIL PRODUCTION
(ANNUAL AVERAGE IN THOUSANDS OF BARRELS PER DAY)

			PERCENTAGE BY AREA		
YEAR	AVG. GRAVITY °API	MB/D	ZULIA/FALCON	EAST VENEZ.	OTHER
1983	23.3	1,801	78	20	2
1982	23.5	1,895	79	20	1
1981	23.5	2,108	78	20	2
1980	24.0	2,150	78	20	2
1979	24.4	2,356	79	20	1
1978	25.0	2,166	78	20	2
1977	25.3	2,238	78	20	2
1976	25.7	2,294	80	18	2
1975	25.9	2,346	77	21	2
1974	25.0	2,976	79	19	2

Source: Ministry of Energy and Mines' Annual Report

Mr. **Sharp**. Thank you very much. Why don't we just go down the line here? Mr. Eck, if you would like to go next, we would be happy to hear from you.

STATEMENT OF THEODORE R. ECK

Mr. **Eck**. I am Ted Eck, chief economist for Amoco Corp., the old Standard Oil Co. of Indiana. We changed our name for business reasons.

Although I spent a long period of time in Venezuela and even on the island of Aruba, I am going to confine my attention to the domestic supply situation with emphasis on our shrinking exploration activity particularly in natural gas and the threat that is posed by proposed taxation on this shrinking activity and the new proposed rulemaking of FERC and the additional contraction of domestic supply that I believe would take place if this ruling were allowed to go into force without major modification.

I would like to use some slides to guide our discussion and start out with my base case forecast which is continuation of current prices, no change in access to OCS oil, and no new FERC directives impacting on exploration activity.

However, in this world of no change we see an incapacity to maintain U.S. oil production and we believe that 15 years from now we will produce 2 million barrels per day less oil than we are producing in the United States and again, this is a high case.

After you have heard my colleagues, I think you will see that maybe I am the optimist on this. This condition, however, would be substantially modified as indicated if we were to embark on any brave new tax initiatives impacting on the petroleum industry. We estimated that if a bill passed that looked anything like Treasury I, that our oil imports would go up to nearly a two-thirds dependency on imported materials by the year 2000.

Treasury II is a lot harder to analyze because the impact is very much up front, this recapture, this retroactive tax, which bears extremely heavily on any industry that invests a lot of money in the last 5 years, like the petroleum industry.

I am confident, however, that there might be some demand side effects too because the imposition of such a severe financial burden on industry I am convinced would create a major and sustained recession so although we might lose some oil production, we would lose a lot of demand in addition.

We can also get ourselves into a position of much larger oil imports dependency if we lose natural gas because if we run out of natural gas, then we will have to shift back all these facilities that shifted from oil, gas and back to oil and that oil can only come from imports so if we take actions which seriously impair our capacity to find and produce gas, we will end up with these horrendous dependencies.

I would next like to turn to natural gas situations specifically and point out that indeed it is just not true that we are sitting on a giant gas bubble that is growing. If we look at the record of U.S. crude natural gas reserves, we see a frightening shrinkage of these reserves and I am very fearful that the FERC proposed rulemaking only addresses the issue of how we can more quickly deplete our existing reserves and is strangely silent on supply impact of their proposed ruling.

My pessimism regarding the future is based on looking at the present which witnesses a massive reduction in the number of rigs operating. We are operating really about a third of the number of rigs we operated 4 years ago.

In addition, our capacity to drill wells is shrinking because we are scraping rigs. We are not adding to the fleet. So our total capacity to explore in this country is being physically reduced.

If we track what happens to rig activity with reserve additions of natural gas we see a very close fit, the red there being the rigs and the yellow the reserve additions. What I am suggesting is after we get all the numbers in on reserve additions, we are going to see a continued sharp decline in the rate of reserve additions of natural gas as a function of what we have already seen to date taking place in the oil patch.

Why are we seeing this contraction in drilling activity?

Pretty clearly, it is because we are just not spending money. The industry is not receiving any funds from external sources. Recently as 1981, more than half of all the money that was going into exploration production came from outside the industry. It was money coming in from banks and private investors and so on.

This money has completely dried up and in fact, where we are right now is the banks instead of lending any new money to the drilling sector are trying to collect their own loans so we really have a net outflow of external funds plus we have a disturbingly large outflow of internally generated capital in the exploration production business as a consequence in part of bankruptcies but recapitalization, the net effect of which is just less money being invested and you can see the numbers here. Current expenditures are down to about half of what they were in 1981 committed to drilling.

Now the contraction has been most severe in the case of gas. If we track the total number of wells drilled, you can see the decrease here but if we look at the yellow line, that is the percent of gas wells, a percent of total wells, and you will notice that fewer than 20 percent of all the wells being drilled are gas wells.

Now why is this taking place? The simple facts are that with gas price per 1,000 cubic feet at $2.5 and $3, it is just not attractive to drill a lot of gas wells. Deep wells are not attractive. The only wells that are really being drilled are wells that are associated with giant reservoirs.

We are not looking for rabbits any more. We are looking for elephants and only an elephant can pay at the current price levels for gas.

I just put together some numbers yesterday which, I think, are extremely graphic. They are not in your pack incidentally because I just did them and these are first quarter only but I put them together on this basis so we would have a time series and these are consistent numbers.

Just look at what has happened to exploration drilling for gas since 1982, just a horrendous decrease in the number of exploration wells being drilled. Again, let me caution, this is at current taxes and at current Federal regulations and current access to OCS and all those things that impact our business.

In addition to the fact that we are not drilling very many wells, we are finding less oil and gas per foot drilled or per well. You can see the decline taking place here. This is no surprise because we are in old exploration provinces. We have found the easy oil. We have found the easy gas and it is just that it costs more, more wells per unit of gas and oil discovery.

So the net result of this is that we are in a situation in the case of natural gas of very rapid depletion of gas from existing reservoirs with a horrendous task of replacing gas at the rate that we are using it and it is my judgment in the absence of any change in tax, in the absence of any new experimental rules that we are going to not be successful in making this replacement.

However, if we look at the impact of proposed rulemaking we see, I think, two things that will happen. One is we will accelerate the depletion of existing reservoirs and we will substantially reduce the rate of addition of new reservoirs such that we will be far more dependent on potential supplies of imported gas or oil.

The reasons for this should be very simple. Everybody agrees that the net impact of the FERC initiative is going to be to lower gas prices. Undoubtedly the impact of lower gas prices will be more consumption of gas and less production or certainly less drilling.

A very severe cash-flow impact further complicates an industry in which, as I have indicated, severe constraints on both internal and external cash being directed toward exploration production.

The problem of elimination of take or pay, the 25 percent market outrules and so on appear to prohibit the economics of construction of new pipelines ruling out discovery efforts in most new frontier areas.

I would think that whatever is left of the synthetic gas industry would certainly not have any life because of the absence of contracts, the absence of any dependable offtake arrangements.

So what we conclude from this then is if enacted without major modification, the FERC proposals would result in potential increases of gas imports of from the current level of about 1 trillion cubic feet up to 6 trillion cubic feet in 15 years.

Specific numbers are on this slide here. The real problem that we have with this is that we don't know where we can import 6 trillion cubic feet of gas. We have really concerned ourselves with where we could import three. That is the forecast if nothing changes and we see maybe 2 trillion cubic feet available in Canada and maybe a half in Mexico or something like this, but we just don't believe that there is an opportunity to import that much gas unless we go up into the very high cost Arctic areas of Canada, very high cost maybe Alaskan Arctic, whatever, but more likely the price of gas would become so high that the economics of consumption would shift back to oil and we would have these higher oil imports which I referred to.

So I really fear a combined burden, that of increased dependency on gas imports, increased dependency on oil imports and as we have heard and will hear additionally maybe contributing to higher world oil prices because of the incremental or additional demand on OPEC that these actions would contribute.

That is all I have in the way of formal slides. I would just like to conclude by stating that I believe this committee should be concerned with the potential impacts of taxes, proposed taxes, on oil and gas supply. I think you should be very concerned about the impact of these proposed FERC rulemakings on future gas supplies, on the ability of the pipelines and the local distribution companies to service core markets, on what the impact may be on the environment and all other derivative effects of this ruling.

I specifically recommend to the membership of this committee that they request that FERC schedule more time for public study of these proposed rules so that all interested parties, states, industrialized users, our environmental friends can learn what the impact is going to be on their areas of interest and comment intelligently on this very, very complex issue.

Thank you.

[Testimony resumes on p. 126.]

[The prepared statement of Mr. Eck follows:]

TESTIMONY ON THE OIL AND NATURAL GAS OUTLOOK

BY

THEODORE R. ECK
CHIEF ECONOMIST
AMOCO CORPORATION

SUMMARY

Although there is currently a surplus of crude oil in the world, the history of the Middle East suggests that political instability can be expected again to impact future oil supplies. A major challenge to the U.S. is to try to limit our dependence on imported oil and natural gas for both national security and economic reasons.

The U.S. petroleum industry is once again investing at a level well below that needed to maintain current production. The number of U.S. drilling rigs operating has fallen from a peak of 4500 in 1981 to less than 1900 today. With current tax rules and regulations and assuming no further real decreases in prices, it is projected that U.S. crude oil imports will nearly double between now and the year 2000. At that point, imported oil will be supplying over half our requirements.

Investors will not commit to high-risk investments for petroleum exploration if there is not a prospect of earning a reasonable return on investment. Eighty-five percent of U.S. petroleum production in the year 2000 must come from new reserves. We must be prepared to open new frontiers in remote and physically hostile regions like Alaska and in deep water off the U.S. coast. We must also increase the recovery of oil from existing fields through tertiary recovery techniques. Funds and incentives for doing this will not be there if we have new tax legislation and/or new Federal Energy Regulatory Commission (FERC) regulations that are detrimental to the oil industry.

The U.S. petroleum industry is already the most highly taxed industry in the nation. Changes in our tax laws that would repeal the expensing of intangible drilling costs, tertiary injections and exploration dry hole costs could reduce U.S. production and increase oil imports by at least 1.5 million barrels per day by 1995.

FERC has recently proposed new rules for natural gas that would significantly reduce U.S. natural gas production. Even under existing rules, we project that natural gas imports will triple between now and the year 2000 because of decreased U.S. production. Under FERC's proposed regulations, natural gas imports would have to increase from 1 trillion cubic feet in 1985 to 6 trillion cubic feet in 2000 in order to meet our gas requirements. This amount of imported gas will not be available at a reasonable price, and instead oil imports will have to increase by about 1.5 million barrels per day by 2000 to offset the shortage of natural gas.

U.S. oil imports currently cost about $50 billion dollars per year and make up about half of the U.S. merchandise trade deficit. Even without tax law changes or the proposed new FERC regulations, the cost of oil imports would be expected to increase to about $100 billion in 2000 in constant 1985 dollars. Increasing imports by an additional 1.5 million barrels per day in 2000 because of _either_ the tax law changes or the proposed changes in the natural gas regulations would increase the year 2000 import bill to $135 billion (including the price impact).

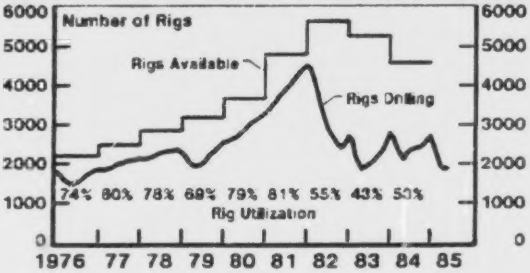
Including inflationary increases in crude prices would increase the oil import bill to over $300 billion dollars in 2000. The impact of this on our trade deficit and the U.S. economy is hard to comprehend but the U.S. must face up to this prospect for it is very real. For national security and economic reasons, U.S. oil companies must be allowed to explore domestic resource prospects and develop their full potential.

U.S. OIL SUPPLY AND DEMAND

The Free World oil supply/demand balance has changed dramatically since the 1970s. The disruptive impact of the two oil shocks is already starting to be forgotten as the world has moved from an oil shortage position to one of surplus following the price increases of 1973-1974 and 1979-1980. Prior to the first oil shock, energy was inexpensive. This encouraged consumption and discouraged production and set the stage for the Arab oil embargo. The price increases of the 1970s encouraged conservation and provided the incentives to search for and develop new hydrocarbon reserves. However, it took about ten years after the first oil shock for the oil supply/demand balance to change from one of apparent shortage to one of surplus.

The current world surplus of productive capacity has led to general complacency about the adequacy of future oil supplies. The substantial increases in exploration and production investments made during the late 1970s and early 1980s have been bearing fruit. However, unless exploration levels are increased, a return to shortages is expected. Recent trends are not encouraging. As the economics of oil and gas production are perceived to be less favorable, drilling activity has decreased. As shown on this figure, the U.S. rig count has decreased from a peak of 4500 in 1981 to under 1900 currently.

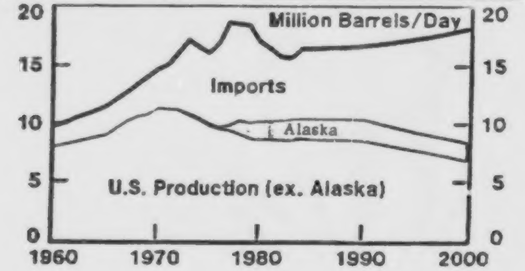
U.S. Industry Drilling Rig Count



With the more favorable economic outlook experienced during the late 1970s, the industry was able to arrest the decline in U.S. production and we are now enjoying the benefits of the substantial investments made some five to ten years ago. U.S. oil production in 1984 increased to about 10 million barrels per day, back up to the levels of 1974. It took ten years to achieve this trend. I repeat this to remind you that actions taken today will have a long-term impact on our energy supply. We do not expect a sudden change in production levels if decisions detrimental to the energy search are taken. Instead we expect that drilling rates and investment rates will drop even below today's low levels, that U.S. production will decrease faster than currently forecast and our domestic oil and gas supply will be greatly reduced during the 1990s.

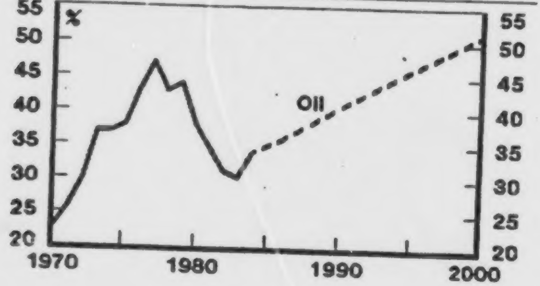
The recent drop in oil prices is the result of the current temporary surplus of productive capacity. This may give a short-term benefit to the world economy and consumers, but it sows the seeds of future shortages. I would like to share with you our current view of future oil supply and demand assuming a scenario in which crude prices rise gradually (at least with inflation) in response to the increasing costs of production. Under this scenario, exploration and development activity returns to a level higher than that of today. In spite of this higher activity, we expect U.S. oil production to decrease gradually from its current level of around 10 million barrels per day to about 8 million barrels per day by the year 2000 while demand increases from 16 million barrels per day to about 18 million barrels per day by 2000 as shown on the following chart.

U.S. Oil Supply



I wish to reiterate that this forecast is predicated on the assumption that oil prices and incentives for oil exploration and production will improve gradually over time sending the producers the right signals to continue exploring for oil. Recently, as a result of weaker prices and expectations of lower profitability, the industry has retrenched from its high rate of drilling activity. If this low drilling rate is permitted to continue, it will have far-reaching consequences for our oil supply and will result in even higher dependence on foreign oil than our forecast indicates. Even assuming a return to a more favorable economic environment and a resumption of higher drilling activity, our forecast indicates that U.S. oil imports will increase to over 50 percent of demand by the year 2000 as shown on the chart below.

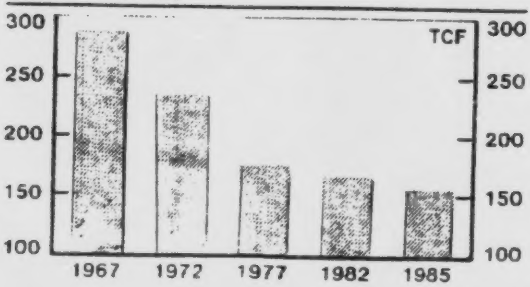
Imports as % of U.S. Supply



U.S. NATURAL GAS SUPPLY AND DEMAND

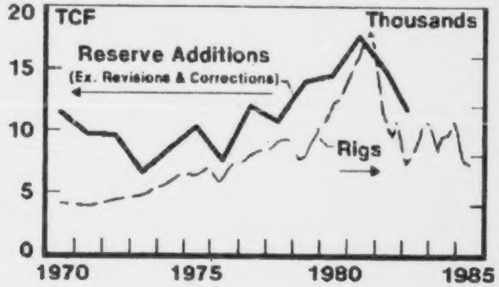
The supply and demand outlook for natural gas parallels that of crude oil. We believe that the current excess gas producing capacity, the so called gas bubble, is temporary. Proved U.S. reserves of natural gas have fallen to about half of the 1967 level as new reserve additions have failed to keep pace with natural gas production.

Proved Natural Gas Reserves (ex. Alaska)



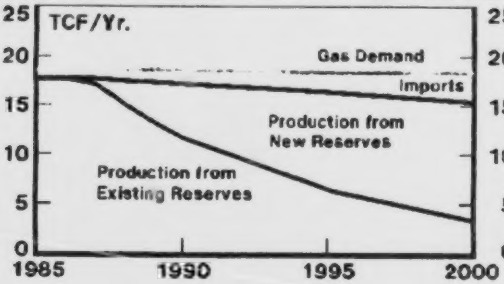
The falloff in the U.S. rig count during the last few years will further aggravate the natural gas supply situation since there is a close correlation between the number of rigs operating and the amount of natural gas reserves discovered each year.

Operating Rigs and Gas Reserves Added U.S. ex Alaska

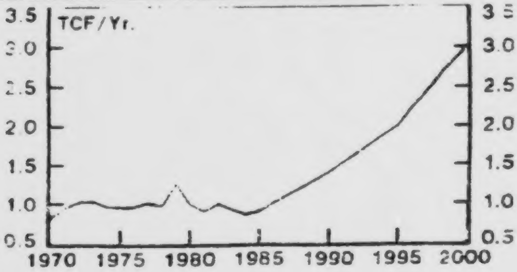


Total demand is expected to remain essentially flat at 18 TCF as shown below, while U.S. gas production is expected to decline from about 17 trillion cubic feet (TCF) in 1985 to about 15 TCF in 2000 excluding the negative supply effects of the FERC proposed rulemaking. As a result, U.S. gas imports are projected to triple from 1 TCF in 1985 to 3 TCF in 2000. Most of the domestic gas production in the 1990s will have to come from new reserves as production from existing reserves rapidly falls off.

U.S. Natural Gas Supply/Demand - With Current Taxes and FERC Regulations

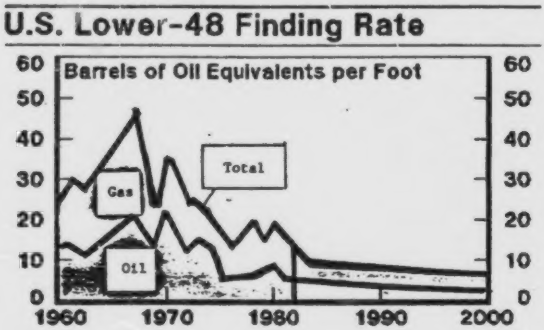


U.S. Natural Gas Imports



ECONOMICS OF EXPLORATION AND PRODUCTION

The forces at work against increased oil and gas exploration are economic ones. The outlook for exploration and production profitability will not encourage the higher expenditures required to replace reserves. Finding rates are decreasing as our resource base becomes depleted. These trends indicate that new oil and natural gas will become more expensive to find and develop and unless the industry perceives that the economic incentives will be present, less effort will be directed to this area. The chart below shows the historical trend in finding rates for oil and natural gas per foot drilled and our expected extension of this trend to the year 2000.



The fundamental economics of the exploration industry are jointly determined by two related, but by no means identical, parameters: price incentives and capital availability. A proper level of both is necessary for healthy growth of the industry. A major shortcoming of U.S. energy policy decisions during the 1970s was the result of the emphasis placed on price incentives alone, without proper regard for the equally important question of capital generation.

The system of crude oil price controls that operated in the 1970s went through several revampings, but one consistent theme was that of keeping a very low ceiling on the price of "old" oil from previously discovered fields, while offering a relatively higher "incentive" price for new reserves found by current drilling. A similar system, albeit a much more complex one, is embodied in the pricing provisions of the Natural Gas Policy Act of 1978.

This type of pricing scheme was staunchly defended on the grounds that it provided "adequate" incentives for exploration while preventing owners of old oil from earning unearned windfalls. (For some curious reason, similar concerns over windfalls were never directed to owners of old gold coins or old houses.) This logic completely ignored both the rise in real replacement costs of oil and natural gas reserves and the capital constraints facing petroleum exploration.

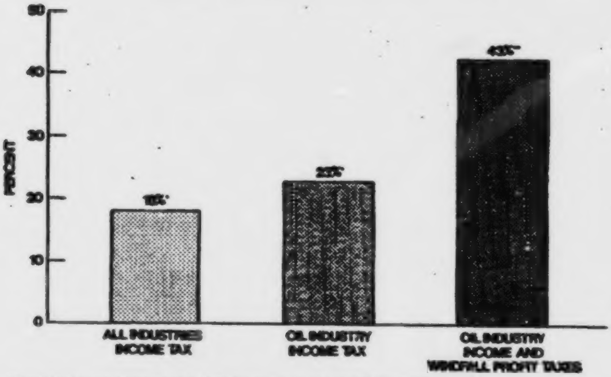
If a producer of any kind of goods with increasing real costs is to simply hold his own as a viable business concern, his selling prices must reflect the full costs of replacing each item of inventory he sells, not just the cost he originally incurred in acquiring the item. This seems a very simple idea, but it explains exactly what was happening to the U.S. oil industry during the 1956-1971 period: real oil prices were falling, replacement costs were rising, and the nation's "booked" inventory of proven oil and natural gas reserves was declining. We were almost literally "selling the store."

The concern we are raising about greater dependence on imported oil and natural gas is echoed by such organizations as the International Energy Agency (IEA). In its annual report on energy policy, the IEA predicts a gradual tightening of world oil markets in the 1990s as Western production falls and world demand keeps rising. They suggest that despite the current easy markets, member governments should maintain programs to reduce oil use and encourage exploration and development. We believe that possible changes in the U.S. tax laws and in FERC's recently proposed ruling for the pricing of natural gas will increase the cost of finding and developing reserves, reduce the effective price of natural gas at the wellhead, and discourage exploration activity in the U.S.

PETROLEUM INDUSTRY TAXES

The domestic petroleum industry is the most heavily taxed industry in the U.S. The following chart shows that based on recent tax rate analysis by the staff of the Joint Committee on Taxation, the petroleum industry's effective Federal income tax rate is well above that for other industries. This is true on both a U.S.-only basis and a worldwide basis. Even excluding the so-called "windfall tax," the petroleum industry tax rate is more than the average for other industries. With the "windfall tax"--which is applied uniquely to the petroleum industry--the effective tax rate for the petroleum industry is clearly the highest of any major industry.

FEDERAL TAXES PAID (1980-1983)



*Unweighted average of yearly rates in Joint Committee on Taxation staff study, November 1984
**API collected data on Windfall Profit Tax from sample of 24 leading U.S. oil companies

In addition, the petroleum industry pays severance, production, property, payroll, excise, and state and local income taxes. Because of these taxes, the total petroleum industry tax burden is estimated to be nearly three times the amount of the Federal income and "windfall tax" liabilities. For example, 24 leading companies paid a tax bill of $30 billion in 1983, composed of these elements: "windfall tax" of $7 billion, Federal, state and local income taxes of $4.6 billion, severance and production taxes of $3.5 billion, property and ad valorem taxes of $2 billion, payroll taxes of $1.3 billion, Federal, state and local motor fuel and other product excise taxes of $10 billion, and other taxes of $1.6 billion.

In view of this already heavy tax burden on the petroleum industry, it seems unfair to consider further tax increases for the oil industry. However, the tax reform package currently under consideration would increase taxes for the petroleum industry even further above their already disproportionately high level. Every dollar of increased tax would have an adverse impact on the cash available and incentive for oil and gas exploration in the U.S.

As indicated previously, even without any further increase in the oil industry tax burden, U.S. oil imports are projected to almost double by 2000 and provide over half the U.S. oil supply. This has serious economic and national security implications for the U.S. Increasing taxes on the petroleum industry further would depress the U.S. oil and natural gas production outlook and aggravate our balance of trade situation.

Retention of the expensing of intangible drilling cost (IDC) is particularly important. Elimination of IDC expensing would result in a decrease in production of about 1 million barrels of oil equivalent per day in 1990 and about 1.5 million barrels a day of in 1995. In the mid to late 1990s this alone could raise oil prices by $4 a barrel and add $35 billion (in 1985 dollars) each year to our import bill.

There are some positive elements in the tax changes being considered, including the lower corporate tax rate, the tax credit for dividends and the indexing of depreciation. However, these potential benefits are outweighed by the negative factors which would discourage future investments and retard economic growth.

The negatives include the recapture provision (a totally arbitrary new tax which penalizes those who helped the economy recover through their heavy recent investment), the elimination of the investment tax credit (which will discourage investment and job creation in natural resource industries and manufacturing) and the new rules for foreign source income (which will weaken U.S. companies in competition abroad). For the sake of fairness and in the interest of our future energy supply, the petroleum industry should not be burdened with these additional taxes since it is already paying more than its fair share of taxes.

FERC'S PROPOSED NEW REGULATIONS

We strongly oppose FERC's proposed new regulations since the regulations would have a detrimental impact on U.S. natural gas production. Despite remarks by the FERC Chairman to the contrary, the proposal ignores the detrimental impact it will have on supply and is totally taken by the theme of the day, i.e. the current surplus. As mentioned previously, the U.S. petroleum industry has been impacted by declining oil and gas prices in recent years. More than $20 billion of equity capital has left the industry due to bankruptcies, mergers and acquisitions, restructuring, etc. The rig activity is down more than 60 percent since its peak at the end of 1981.

If the new tax legislation is passed, it will almost certainly reduce petroleum industry profitability and cash flow. We do not need the added disruption brought about by a major regulatory overhaul. The natural gas market has already come a long way in sorting out its problems. New gas prices at the wellhead have been going down and the average price for all gas has stabilized or declined slightly. Gas prices are at competitive levels with oil at the burner tip already. Take-or-pay problems have been settled or are currently being negotiated. FERC asserts that most of the proposal is "voluntary." We submit the "voluntary" aspect is effectively an illusion since those pipelines which refuse to become "transporters" will be at such a serious competitive disadvantage that this is nothing more than a subterfuge to do what FERC does not have the authority to do.

The proposed rulemaking sets the stage for a return of the gas industry back to the shortage and curtailment days of the 1970s, but now without even a viable means of handling curtailments (explained later). The proposal focuses singularly on forcing down gas prices by encouraging pipelines to abrogate their contracts (explained below) and ignoring the large reserve loss by forever keeping old gas prices at low levels (estimated by the Congressional Office of Technology Assessment to be 19 to 38 TCF of gas.) The FERC ignores its duty of ensuring a reliable, adequate supply of gas by permitting the pipeline's service obligation to be dissipated. The FERC unlawfully has derogated its responsibilities under the Natural Gas Act by allowing pipeline customers to decide whether, and to what extent, they can abrogate their contracts with their suppliers. That function is reserved, by law, to the Commission, not private parties. In addition, the Commission's proposal will severely compromise the pipeline's duties to perform its public utility responsibility to serve the public with adequate long-term supplies, which responsibility is explicitly spelled out in the recent D.C. Circuit opinion, Texasgulf v. United Gas Pipeline Co.

Mr. Chairman, we believe your Subcommittee should request the FERC Chairman to respond to the duty his agency has to see that those customers who depend solely on gas are properly looked after. We believe destroying long-term contracts between producers and pipelines, forgetting about large gas reserves that will be forever lost, dissipating the pipeline's service obligation, and simply saying the market will hopefully handle this half regulated, half free industry is an inadequate response to the duty his agency has been assigned. In addition to the above general comments, our specific objections to FERC's proposed regulations are discussed below:

(1) Encourage Pipelines to Abrogate Contracts

By requiring pipelines to reserve the lower priced old gas for their existing customers, instead of the current practice of allowing that gas to be rolled-in with more expensive new gas, FERC will be making the already contracted for higher cost new gas unmarketable. Further, the proposal to give the pipeline's customers, mostly local distribution companies (LDCs), the unilateral right to reduce their purchase obligations means that the pipelines will no longer have an assured market for the gas they contracted to purchase from producers.

This situation will, in turn, generate tremendous pressure on pipelines who lose these "core" market customers to abrogate established business practices including not honoring contractual obligations with their producer/suppliers. They may even attempt to erroneously use the above features to claim force majeure. These features of the proposal are the most objectionable and will do the gas industry the greatest harm. Who will look for new gas sources if contracts can be abrogated at any time? In addition, while encouraging abrogation of high-priced contracts, the proposal keeps in force old gas contracts at low prices that are grossly unfavorable to the producers. Finally, this action will result in the demise of long-term contracts in the producing industry, which are fundamental to a highly-capital intensive, long-lead time industry.

(2) Create Inequities

The FERC justification of its block billing is without merit. At best, it shoves the inequities from the pipelines to the LDC's and direct pipeline purchasers. Further, it creates a whole new class of preferred customers out of thin air, those who bought gas in the 1982-1984 period. Those who purchased before then, or after are excluded. By taking away the old gas from pipelines and giving it to the LDC's, FERC is creating inequities rather than eliminating them:

(a) With the suggested change, LDC's with lots of low-priced gas will be at a competitive advantage in bidding for supplies of new gas versus those LDC's with little old gas.

(b) Industrial users serviced by LDC's with entitlements to large amounts of old gas will have an advantage over their competitors which are serviced by LDC's with entitlements to lesser amounts of old gas. Most importantly, the proposal will have a serious anticompetitive impact on industries that are large users of gas. The single most important criterion in determining the competitiveness of an industry is ease of new entrants. This proposal locks out new entrants from low-priced gas and increases the difficulty of entry to the market.

(3) Discourage Conservation

Not allowing pipelines to roll-in prices and allowing LDC's to unilaterally phaseout contracted volumes will have the effect of lowering Block 2 new gas prices, and consequently, lowering the average price to a gas user. This will discourage conservation and create excess consumption since the market price of gas will be forced below its economic level. This results from having part of the gas at market levels and the other part held artificially below market levels.

(4) Discourage pipelines from building new lines.

Pipelines will be reluctant to build new lines due to the increased risk exposure resulting from the following:

(a) Unilateral right of the pipeline's customers to reduce their purchases under firm sales contracts.

(b) Elimination of rolled-in pricing due to block billing.

(c) The expedited certificate procedure requires each new pipeline to bear all economic risks, i.e., its costs cannot be subsidized by the rest of the pipeline system.

(d) Open access to the pipeline system and non-exclusive certificates will be a deterrent to pipelines constructing new facilities.

As a result, the proposal will stifle pipeline installations and compel producers to build lines to market their gas.

(5) Discourage the gas purchasing function of pipelines.

Pipelines will move away from the gas purchasing function and towards being only transporters of gas for the following reasons:

(a) They no longer will have an assured market for their gas.

(b) Inability to roll-in higher-priced gas with low-priced gas to obtain a marketable mix.

(c) Open access of the transportation system and non-exclusive pipeline certificates would expose their gas purchases to large risks.

Producers will be forced into the role of marketing gas to the pipeline's customers. This will require producers to have large staffs and create serious operating problems as a result of the loss of the pipeline's gas balancing function.

(6) Reduce the search for new gas supplies.

The proposed rulemaking will have a detrimental impact on the search for new gas supplies as a result of the following:

(a) As the pipelines move away from the gas purchasing function, it will mean a producer must reflect a greater degree of uncertainty in the ability to market gas from new ventures.

(b) The reluctance of pipelines to construct new facilities will add to the problems in planning for new gas ventures.

(7) Curtailment programs will be unworkable.

The curtailment programs to deal with gas shortages are based on shifting gas supplies from low priority to high priority users. However, the proposal would lead to direct gas purchase contracts between the low priority users and the producers, eliminating the option of pipelines shifting their supplies to higher priority users since the low-priority gas will be tied up under private contractual relations. Indeed, the entire structure of proposed regulations is to threaten the adequacy of future gas supply for core or priority markets.

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IMPACT ON GAS SUPPLY/DEMAND

Even under the current regulations, U.S. natural gas imports are expected to increase from 1 trillion cubic feet (TCF) in 1985 to about 3 TCF in 2000, as shown in the following table:

Under Current FERC Regulations

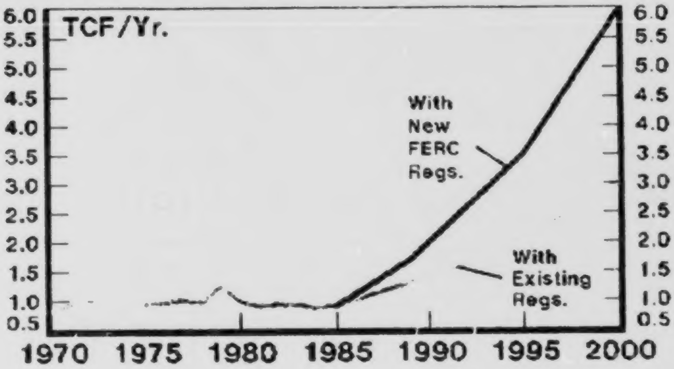
	TCF	
	1985	2000
U.S. Dry Gas Production	17	15
Imports	1	3
U.S. Gas Consumption	18	18

If the proposed new FERC regulations are implemented, domestic natural gas production is expected to be 2 TCF lower in the year 2000 than under the current regulations, and potential U.S. gas consumption is projected to be 1 TCF higher, requiring 6 TCF of imports as shown in the following table:

Under Proposed New FERC Regulations

	TCF	
	1985	2000
U.S. Dry Gas Production	17	13
Required Imports	1	6
U.S. Gas Consumption	18	19

U.S. Natural Gas Imports



It is not clear where 6 TCF of imports would come from. It is doubtful if Canada can supply more than 2 TCF. Perhaps Mexico and other sources could supply another 1 TCF. The remaining 3 TCF of natural gas demand would have to be satisfied by residual fuel oil and that would mean 1.5 million B/D of additional oil imports. As it is, U.S. oil imports are expected to increase from 5 million B/D in 1985 to 9 million B/D in the year 2000.

Oil's contribution to the U.S. trade deficit is projected to double in 1985 constant dollars from $50 billion in 1985 to $100 billion in 2000. The additional 1.5 million B/D of oil imports in 2000 on account of the new FERC regulations would increase U.S. vulnerability to unstable Middle East oil supplies even more and raise the trade deficit to $135 billion (in 1985 dollars) including the price impact. Can the U.S. afford this luxury just so that FERC can "level the field" for natural gas pipelines? The answer has to be a resounding NO.

Mr. **Sharp**. Thank you very much, Mr. Eck. We now welcome Mr. Phil Verleger.

STATEMENT OF PHILIP K. VERLEGER, JR.

Mr. **Verleger**. Mr. Chairman, members of the committee, ladies and gentlemen, thank you very much for inviting me to appear here again. It is always a pleasure to come before the subcommittee and I will attempt to be very brief as the custom with my remarks. I have filed a long statement for the record.

I appear here as an independent consultant. I work through the firm of Charles River Associates but it is in the role as a student of the oil market that brings me here.

The thrust of my message today is that oil has become an economic commodity. This evolution makes the prediction of future prices very difficult.

Indeed, I will suggest that it is almost impossible. We may see two price cycles over the next 20 years. Prices may fall as low as 10 dollars per barrel rising above $50 per barrel and repeat the cycle a second time.

The other element that comes out of this analysis is that it is very difficult and would be extremely expensive for the United States or for other consuming governments to do much about it.

The key problem is that over the last 15 years while we have struggled to deal with the world energy problem and this committee has especially struggled with the domestic ramifications of price controls on gas, oil, environmental controls, there have been major changes taking place in the world oil market. I would like to discuss four of those changes.

They concern first the way in which oil flows to the market; second, the increase in the volitility of consumption; third, the adoption of market destabilizing policies or shift in policies by consuming governments from those that tend to stabilize prices to those which destabilize prices—I am not confining my remarks here to the United States but include Great Britain, Norway, and Canada as other countries—and fourth, growth of new institutions and expansion of existing institutions to help private producers cope with these changes.

I think the key element in the change in the world oil market has been the change in control over the flow of oil to the world market. It is customary in terms of talking of commodity markets to say a market cannot exist unless there is relatively free flow of oil to the market.

What I mean by flow to the market is not that OPEC has lost 20 percent market share, gone from 50 to 30 percent, but rather that the interest of the multinational oil companies were taken over by the oil-exporting countries between 1973 and 1979.

Mr. Netschert mentioned it earlier but it is a point that needs to be driven home. In the 1950's and 1960's most of the control over production was in the hands of the majors. Outside North America the majors distributed roughly 85 percent of the oil produced outside of America.

By 1983 that percentage had dropped to 15 percent and the majors essentially no longer had any role in the oil-exporting countries save Indonesia and Nigeria, and one or two others.

Not only that, the glue or the catalyst that tended to create a surplus in the market and prevent prices from fluctuating wildly had been eliminated. These were the joint producing agreements through which most of the majors operated in the various countries and which prevented any one company from exacting a larger share of production without letting its other partners accept an additional share and which also allowed the companies to essentially control the total volume of oil coming onto the world oil market.

Through this we could maintain stable prices with substantial surplus capacity. The surplus capacity was not a threat to the market.

These controls over the flow of oil in the market were eliminated with the nationalizations in Saudi Arabia and other countries, Kuwait, and they were further weakened by the growth in production in other areas of the world, Mexico, Colombia, Great Britain, and Norway. The list goes on and on.

One way of looking at this is to compute a Herfendahl index of world oil exports. The Herfendahl index is an index the Department of Justice uses to measure concentration. If it is above 2,000, the view is that the market is concentrated and mergers should not be permitted because they tend to support excessively high prices.

With the Herfendahl index below 1,000, one finds that markets tend to be very competitive. That index reached a high of 2,100, in 1981 and today is below 800. So the world oil market in the short space of 5 years has gone from being very concentrated to very unconcentrated.

The second major change is the increase in volitility of consumption. Between 1960 and 1973 the variance, an economist's measure of volitility in consumption was 400,000 barrels per day. In world consumption the variance was 1.1 million barrels per day.

Over the last 10 years the variance in U.S. consumption has risen to 1.2 million barrels per day. The variance in consumption for the Free world as a whole has risen to 3.6 million barrels per day so price volitility or consumption volitility has increased.

Another measure of this is that forecasting errors have become much larger. If one goes back just to 1978, one can find forecasts which say that 1985 was to be the year when the Free world consumed 70 million barrels per day and OPEC would produce 45 million barrels per day. Those were the numbers that we used in the Carter administration at one point.

This year, it may be 46 million barrels per day. It is a 33-percent error which is large even on the scale of economic forecasting errors over such a short period of time, and OPEC's production will be less than 16 million.

Just last week we saw the IEA markdown its projection for 1985 from 46 million barrels per day to 45.5 million barrels per day. Half way through the year, you cut the consumption. Consumption has become more volatile and more uncertain.

The third change concerns the policies adopted by consuming countries. In the late 1960's the primary policy was that of the

United States. Our policy of percentage depletion tended to promote high prices for tax reasons.

At the same time we had a system of mandatory oil import quotas, which stabilized prices. Since 1970, we have replaced percentage depletion with the windfall profits tax which encourages oil companies to minimize the wellhead price of oil in order to reduce tax liabilities. There is a petroleum revenue tax in Great Britain which has the same effect there and we have eliminated price controls. We have eliminated the mandatory oil import quota program. All of this has shifted the market to make oil companies try to minimize wellhead prices and added to price volitility, pushing oil toward being a commodity.

Naturally, as oil has become a commodity new institutions have arisen and older ones have expanded. The spot market is much larger. We have new contracts, contracts which place the price risk on the back of the producer not in the hand of the buyer or the refiner and we have had the development of the futures market. I think the growth of the futures market has probably had the most important impact simply because it has allowed the entry of a large number of new participants.

You recall the discussions of Federal Oil and Gas Corporation and other types of energy measures in the late 1970's. How do we bring in new entrants into the oil market? Well, this has done it by lowering the cost of speculating or supplying oil by a factor of 5,000.

If you look back before the development of the futures market a firm wanting to start supplying oil perhaps later to speculate in oil would have had to deliver oil, would have had to expend substantial millions of dollars over a period of time before they could become a demonstrated supplier and perhaps promise to deliver oil they did not have.

Today any of us can go down to Merrill Lynch, E.F. Hutton, or someplace else and open up a futures account with $5,000. Entry has increased substantially. The cost of speculation has been reduced and more people have entered and prices are under much greater pressure.

The other market element is the deemed processing agreement adopted by Iran and other countries which mean that the buyer is not exposed to any price risk.

It is commonly argued that when the surplus capacity goes away, these factors will come to an end and prices will go back up and begin rising in a steady course. I think that is false, unless there are developments of new institutions like those that existed in the 1960's, such as the joint-producing agreements and a cooperative cartel which controls excess production and maintains some sort of price stability.

I think, given the recent history of OPEC, we are unlikely to see that. Instead, like the farmer, the resource producers, primarily the oil companies, will find that the next decades will have periods of low prices, low profits, and low returns interspersed with occasional periods of very sharp price increases, high profits and high returns.

The producers of crude oil are in a position little different from that of the American farmer.

I just do not see that the OPEC countries getting together and solving the problem. They have more political difficulties than we see in either the House of Representatives or the Senate.

I think the events of the last week demonstrate the way this is working and I will conclude by just noting that everybody read in the Times yesterday that Saudi Arabia was threatening to increase its production to 4 million barrels per day. Everybody is wondering what is going on.

My interpretation is that it is a nice Machiavellian move by the Saudis who, by threatening to raise the production of oil to 4 million barrels per day, create the real threat in the mind of buyers of oil, oil companies, that the price may be $20 per barrel by September and consequently, these companies will not go out and by long haul crude from Nigeria, Algeria, or any place else. Inventories will be down.

Yet these companies must continue operating and they will look for a supplier that can come knock on their door and promise to deliver oil tomorrow.

Saudi Arabia has positioned oil near the market, has positioned oil in Rotterdam, has positioned oil in the Caribbean and has positioned oil in Japan and will be prepared to deliver oil on a CIF basis at about $29. The Saudi Arabian's are playing chess and it is a very clever strategy.

Their efforts may be doomed though if the dollar continues to weaken because the oil exporting countries, many of the oil exporting countries, have been pushed near the brink and all of these countries are in the situation identical to that of the GI in Germany.

If the dollar goes down, they suffer a proportional decline in their real income. Roughly for every 10 percent decline in the dollar, they suffer an 8.5 percent decline in their real income. I think over the last few days we have begun to see a slide in the dollar. How far it will go is hard to say but OPEC is going to be under great pressure as the dollar weakens.

I would like to thank the chairman and the members of the committee for your attention and I will be happy to answer any questions.

[Testimony resumes on p. 173.]

[The prepared statement of Mr. Verleger follows:]

Oil Prices During the Next Decade,

Stability or Instability?

Prepared Statement of

Philip K. Verleger, Jr.
Charles River Associates

before

The Subcommittee on Fossil and Synthetic Fuels
of the
Committee on Energy and Commerce,
House of Representatives

July 11, 1985

Mr. Chairman and Members of this Subcommittee. It is a pleasure to once again have the opportunity to address this committee. I am particularly honored to be able to be invited today to discuss the question of future oil prices.

The thrust of my message today is that oil has evolved into an economic commodity. This evolution makes the prediction of future prices very difficult. Indeed, I will suggest that the prediction of oil prices over the next decade is today as difficult as the prediction of the long term price of corn, wheat, copper or gold. Oil prices could easily oscillate over a very wide range in the next decade. Further, an implication which may be drawn from this analysis is that there is probably very little that the U.S. Government or any international organization can do to stabilize the market.

The evolution of the petroleum as a commodity can be traced to a number of forces. Among these are:

- The nationalization of the producing interests of multinational oil companies,
- The failure of exporting countries to manage productions in a manner which stabilized prices,
- Creation of new outlets for crude oil by exporting countries,
- The entry of exporting countries into downstream product markets,
- The drastic decline in consumption of petroleum (and resulting surplus in refinery capacity),
- The change in character of petroleum demand,
- The adoption of rigid price control regimes in some consuming countries,
- The adoption of punitive tax systems on resource production, and
- The development of North Sea production and the abandonment of traditional markets by major integrated oil companies in favor of secure, "rationalized," and defendable market areas.

Oil has become a commodity because the oil exporting countries failed to maintain an environment in which the multinational companies could continue to operate profitably. These firms have elected to cut back or withdraw from regions, restricting their activities to those areas such as the United States, Canada, and the United Kingdom where they have a reasonably good chance of remaining profitable. The withdrawals have, however, created opportunities for new independent marketers and traders to enter the market, and for new institutions to develop.

To understand the nature and importance of the change we begin by describing the characteristics of commonly traded commodities and attempt to note the manner in which oil has taken on the attributes of these commodities. We then seek to identify the changes in industry structure which can be credited (blamed) for causing the metamorphosis of oil. Finally, we attempt to assess the status of the evolution of oil towards a true commodity.

1. General Characteristics of Traded Commodities

The theoretical and empirical behavior of commodity markets has been the subject of countless economic treatises. The list of distinguished economists who have written on the subject include Keynes, Hicks, Houthakker, and Samuelson. Generally economists have been fascinated with the impact of price volatility, the role of inventories as well as the parts played by the principal protagonists, hedgers and speculators. Much of the applied literature has been written in the context of description and analysis of futures markets and the relationship between futures markets and cash markets. However, many of the conclusions apply to those commodity markets which exist without a parallel futures market.

An examination of the research on commodity markets leads one to the conclusion that widely and successfully traded commodities enjoy three or four basic characteristics. Hieronymus (1980, p. 21) lists three characteristics common to successfully traded commodities. "First, they are all bulk commodities that can be described and the separate lots of which are more or less interchangable. Second, none of the commodities has been processed or manufactured to the point of being a product identified with the processes of a particular firm; in general they are bulk commodities but are not , in a strict sense, raw materials. Third, prices are variable and relatively competitively determined."

The U.S. Commodity Futures Trading Commission (the U.S. Government's regulator of the commodity industry) has adopted a longer and more precise list of six criteria to define a commodity which may be eligible for futures trading, a list which actually dates to Baer and Saxon (1948). These criteria require that a commodity meet the following conditions:

> First, the commodity must be sold in homogeneous units. A trader buys or sells a commodity according to established grades, not specific lots or identifiable units.
>
> Second, the commodity obviously must be susceptible to

standardization. Trade in a commodity can not take place unless units can be standardized and grades established so that units can be made interchangable.

Third, the supply and demand must be large. Hieronymus notes that trading in small markets is often unsuccessful because speculators with large financial resources may gain control of either supply or demand so that the market will "ceases to be natural and free" and become instead "merely a battleground for contending speculative factions."(Hieronymus, 1980, p. 20).

Fourth, the supply of the commodity "should flow naturally to the market" unimpaired by artificial restraint imposed by governments or private organizations.

Fifth, supply and demand must be uncertain. Bear and Saxon suggest that prices may be readily adjusted without the intervention of market machinery if supply and demand are known with certainty. A market is required, however, where supply and demand are both large, uncertain and subject to wide variations from year to year.

Sixth, the commodity must be storable so that forward and futures contracting can take place.

Since trade exists in some commodities that do not satisfy all of these criteria, one must conclude that these conditions do not represent necessary and sufficient conditions for the existence of markets. For instance, trade in grains is large and well established despite significant government intervention. Daily trade in foreign currencies, currently estimated to be in the range of hundreds of billions, takes place despite periodic central bank intervention. Further, trade in eggs, broilers, and live hogs is well established despite the obvious perishable nature of the commodity. Thus these criteria provide only a framework for evaluating the comparability between various markets. In this context they provide a useful basis for assessing the evolution of the oil market.

In this connection it may be noted that most texts and studies of futures markets written in the 1960s and 1970s include grains and live stocks, lumber, industrial metals, precious metals, and financial instruments as items where trade can and will take place. Crude oil and petroleum products were notable by their exclusion. By 1985, however, crude oil and petroleum products could be found on many of the standard lists signifying its emergence as a true commodity.

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Until 1972, international trade in crude oil was controlled by seven companies while production in the United States was managed by five state regulatory authorities. Increases in demand were relatively predictable and stable. Further, there was little variance in prices. The conditions for a successful commodity markets were not fulfilled. 1

2. The Factors Which Contributed to the Evolution of the Petroleum Market

The evolution of this market from the controlled environment of the period prior to 1973 into the relatively free market of the 1970's can be traced to number of factors. Changes experienced in the 1970s appeared to

- affect the flow of the oil to the market,
- make the level of supply and demand uncertain, and
- contribute to an increase in price volatility.

The nationalization of the producing interests belonging to the multinational companies, together with changes in the process by which crude prices were set, caused multinational oil companies to reduce their activity as distributors of crude oil and created the opportunity for entry by other firms such as Japanese

Trading Companies. The variation in the level of supply and demand increased simultaneously with the nationalizations. During the 70s and 80s year to year variation in consumption rose as a consequence of more erratic economic activity, higher real prices of oil, and vacillating regulations relating to fuel choice. At the same time, new sources of supply from the North Sea, Mexico, Alaska, Malaysia and other countries were put on the market.

Volatility in prices increased due to the revision of tax regimes in consuming countries (principally the introduction of the windfall tax in the United States and the Petroleum Revenue Tax in the United Kingdom) and the creation of a crude oil futures market. The introduction of trading in crude oil futures increased volatility in prices by drastically cutting the cost and risks of speculation.

2.1 Changes in the Flow of Oil to the Market

Changes in both the the pattern by which oil is moved from the well to the market and the economic incentives affecting oil production have represented a major force in the evolution of oil as a commodity. These changes have included alterations in traditional relationships between producing countries and the multinational oil companies, discoveries and developments in other lands, and changes in economic incentives to lift oil. In the 60s and early 70s the multinational oil companies were joined in an implicit (or perhaps explicit) partnership with the producing nations under which they shared any increase or decrease in revenues due to fluctuations in price or volume. This partnership had become a distant memory by the 80's.

2.1.1 The replacement of the majors as the agents of the producing countries.

Adelman made a detailed examination of concentration and integration in The World Petroleum Market. The ultimate purpose of the study was "to explain and predict price behavior." (Adelman, 1972, pp. 78). He noted "the fewer sellers in any given market. the better chance of cooperative action." (Adelman, 1972, pp 78). To this end he examined both the concentration of total free world production controlled by the majors and joint production agreements between companies. The first concept provided a classical measure of concentration in the industry. The measure of joint production or joint venture offered a more subtle measure of market control. He noted "Since the heart of the problem is the control of output, we need to ask what a joint venture does about bringing the production plans of its members into line. Can each partner order out as much as he likes without being penalized for it, and regardless of the others' opinion that he may be spoiling the market?" (Adelman, 1972, p. 83).

BEST CO ABLE

Professor Adelman's calculations lead him to conclude that the market was concentrated in 1972, and that joint agreements had an impact on supply. He noted "Each (firm) can be assured that nothing is contemplated to threaten an excess of supply and a threat to price." (Adelman, 1972, p 88). By 1984 the multinationals share of oil moved to the market had declined dramatically. Further, joint agreements had become a thing of the past.

2.1.1.1 The Decline in Market Shares

The seven major multinationals accounted for the most oil sold in international trade until 1979. Adelman noted the high concentration of supply in Table III.1 of the *World Petroleum Market*. His calculations are summarized below on table 1.

The companies covered by Adelman include the traditional seven majors (Esso, B.P., Gulf, Mobil, Standard of California, Shell and Texaco) along with C.F.P (Compenie Francoise Petroleum). According to Adelman, C.F.P. accounted for 4.7 percent of the liftings from OPEC leaving the seven majors with 76.1 percent of the 1969 market.

In his calculations, Professor Adelman segregated the world market by separating the North American market from the rest of the free world. While this distinction may seem arbitrary, his choice makes sense because the United States had become an economically isolated market by 1958. Imports were limited by a mandatory quota while domestic production was tightly controlled by various state regulatory agencies.

Vernon (1983) has recently updated Adelman's calculations to 1979. In that year his calculations indicate that the seven major oil companies distributed only 24 percent of OPEC production while the the share of oil distributed directly by producing country exporting companies had increased to 69 percent from zero in the same time period. In the same year calculetions made by this author from PIW data indicate that OPEC accounted for 84 percent of the oil distributed to the free world market excluding North America.

By 1983 the share of the market controlled by the seven majors further decreased as had OPEC's share. Rough estimates of market shares indicate that the equity production controlled by the seven majors accounted for approximately 14 percent of OPEC production and 14 percent of non OPEC, non North American output. In addition, the majors appeared to have purchased another 11 percent of OPEC controlled production. At the same time, OPEC's share of free world production outside of North America had declined to 59 percent.

Thus, in sixteen years OPEC share of the market had declined from 87 percent to 60 percent while the seven majors' share had declined from 75 7 percent to a mere 18 percent. The majors had been replaced by a large number of medium sized oil companies, producing country oil companies, consuming country oil companies, and traders.

2.1.1.2 The Demise of joint agreements.

The loss of market share incurred by the major oil companies was accompanied by the demise in joint producing agreements. The joint arrangements which were of concern to Adelman in 1972 seemed to have become a thing of the past by 1984. The change in the industry may be noted from Tables 2 and 3. Table 2, taken from The World Petroleum Market, displays the distribution of crude production in 1969 by exporting countries distributed by major producing company. Adelman notes "in the tables, "the eight large companies are arranged as much as possible according to their important joint ventures." (Adelman, 1972, pp 81). Table 3 presents the author's attempt to make the same calculation for 1984. It may be noted that the problem of joint production agreements had mostly become an artifact of history.

The demise of joint producing agreements has undoubtedly increased the competitive pressure between exporting countries. In the 1960s and 70s exporting countries experienced great difficulties when they attempted to increase their share of the market because the operators (usually working under a joint agreement) would actively discourage or would refuse to increase liftings. (The experience of Iran in 1952 provides a classic example of this phenomenon). By 1984 the situation had changed. In many cases the country was the sole operator and could vary production as it wished, effectively reducing constraints on the volume of oil moved to the market.

2.1.2 Increase in Non-OPEC Production

The expansion of production in new areas of the world represents the second factor which contributed to an increase in the flow of uncontrolled oil to the market. As Table 4 indicates, OPEC accounted for almost 90 percent of non North American free world production in 1973 but less than 65 percent of this output in 1983. The primary increase in output had come from Egypt, Mexico, Norway, and the United Kingdom. Each of these countries has followed vigorous market efforts to make sure that the maximum possible volume of oil was produced and sold every year. Further, the role of the majors was considerably circumscribed in these new producing countries although they have played a major role in developing fields in the United Kingdom and Norway.

2.1.3 The Change in Economic Incentives

The decline in the share of crude moved by the multinational oil companies is generally attributed to the nationalization of the concessions by exporting countries. However, the loss of ownership need not have caused an almost total withdrawal by the majors from marketing crude produced in lands where they were formally active. Indeed, the companies remained several years after nationalizations. As late as 1978 the seven majors were marketing approximately 4 million barrels a day to thirty party buyers according to Petroleum Intelligence Weekly.[2] Thus the seven majors still accounted for 46 percent of the market outside of the United States if their sales to third parties are added to the 13 million barrels a day of product these companies reported distributing.[3] However, during 1979 most of the crude sales to third parties were dropped because such sales had become unprofitable.

The major impetus to the termination of third party sales was the financial loss incurred by the majors during 1977 and 1978, followed by restrictive conditions imposed at the peak of the 1979 which prevented sellers from profitting during the tight market. PIW described the problems experienced by the majors at that time.

> The oil companies now charging price premiums are extremely sensitive about the subject but make no apologies for action they defend as 'eminently reasonable.' Otherwise they see no point in third-party sales when their traditional base of low-cost equity oil supply is shrinking. 'Buying crude at the official price and reselling to third parties at no profit is utter nonsense. It just guarantees a profit for my customers,' says one supply executive. Oil companies point out they absorbed substantial losses in 1977 and 1978 when they were forced to sell crude to contract buyers at substantial discounts off official prices. 'We can't eat the losses when markets are weak and then be expected to make no reasonable profit when the markets are strong,' the marketers argue. (PIW, Vol. 1 XVIII, No. 19, May 7, 1979 page 1.)

Special surcharges adopted by exporting nations on incremental production provided a further incentive to terminate third party sales. First Saudi Arabia and then other exporters imposed higher prices and shorter credit terms on incremental crude liftings by contract buyers. Some of these buyers passed these premiums onto their customers on a proportionate basis while other firms offered their customers the option of accepting lower volumes with no premiums or full volumes with the premiums.(PIW March 19, 1979) Through much of 1979 these companies were forced to pay larger and larger premiums for incremental supplies and yet found that they could, at best, pass on the increase in their average cost of crude oil to their third party buyers.

This type of incremental economics made no sense. The majors withdrew form the market and left their former customers to deal with the OPEC producing companies on their own. The wisdom of these actions was confirmed in late 1982 and early 1983 when Saudi Arabia forced its former partners in Aramco to lift crude at postings of $ 34.00 per barrel when the oil was worth less than $ 28.00 per barrel.

The effect of the end of third party sales is demonstrated by Table 5 which describes the change in crude oil supply to Japan between 1976 and 1980. Historically, the Japanese oil companies had acquired roughly fifty percent of their crude supplies through contracts with the major oil companies with the other half coming from a mix of spot type purchases (8 percent) and purchases from state oil companies. However, by 1980 PIW indicates that only 8 percent of the oil supply came from traditional sources while 45 percent came through purchases from producer nations.

The multinational companies withdrew from the distribution of OPEC crude because it was no longer profitable to act as a middle man. This change need not have occurred. The exporting countries could have offered the multinationals an incentive to continue lifting crude under long term contractual arrangements. However, such arrangements would have required that the exporting countries offer a financial incentive to those companies acquiring crude under contract.

Instead, the exporting countries adopted a strategy which was at best neutral and, at its worst biased against the long term buyer. Under this approach term prices were adjusted to market conditions with a long lag.[4] Since the process appears to be symmetric, the contractual buyer gains no advantage but suffers no loss as compared to the spot purchaser. However, the balance was shifted in favor of the spot purchaser by sales policies which forced contractual customers to purchase their full quotas when markets were soft but then denied these buyers their full entitlements at times of tight markets such as 1979.[5] Given these sales practices the multinationals found that it was no longer in their best interest to be the conduit through which most of the crude oil supply flowed.

2.1.4 The Increase in Volatility of Supply and Demand

The increase in the variance of consumption represents the second change in the structure of the market. (Hieronymous point that a no organized market machinery was required if supply and demand for a commodity were both certain was noted above). In the case of the oil market the variance in consumption and sources of supply have increased after 1973 and particularly after 1979.

The increased volatility in the level of consumption may be noted in several ways, the most obvious of which may be by simple trend analyses. From 1960 to 1973 both U.S. and total free world consumption were highly correlated with a simple time trend. The standard error of the fitted trend line was 400 mbd for the United States and 1,160 for the free world. This relationship collapsed after 1973 for obvious reasons. From 1974 to 1983 the correlation coefficients drop from the mid 90's to zero, no trend is exhibited and the standard errors triple to 1,248 mbd for the United States and 3,515 for the free world.

A second indicator of the increased uncertainty as to supply and demand may be noted from the errors made in projecting future petroleum consumption. Presumably, if future levels of supply and demand are certain then forecasting errors should be small.

However, a comparison of projected levels of consumption with actual realizations illustrates the degree to which forecasters have missed the mark, and by implication, the uncertainty present in today's oil market. The period of transition again appears to be between 1979 and 1982.

The period of transition of may be noted by examining two groups of forecasts. The first group of forecasts represent a collection of projections of free world consumption in 1985 made between 1977 and 1982. The 1977 and 1978 forecasts are clustered in a range from 61 to 70 million barrels a day while the later projections fall in a range between 48 and 51 million barrels a day.

The great adjustment in forecasts was made in the years between 1980 and 1982. One may note, for instance that the IEA's forecast has been cut from 65 million barrels a day to 53 million barrels a day between 1978 and 1981 (and to 47 million barrels a day by the end of 1984), and that half of the cut had been made in 1979 and 1980. Chevron made a similar cut of 10 mmbd in its forecast between 1979 and 1981 while Shell cut its forecast in one year.

Part of the explanation for the large changes in forecasts may lie in the errors experienced in short term forecasts made between 1979 and 1982. These errors may be observed by examining errors made in projections of U.S. petroleum consumption submitted to the Texas Railroad Commission by companies operating in Texas.[6] Table 7 presents data on the forecasts for the years from 1975 to 1984. There we show the mean of projection increase, the actual percent increase, the forecast error, and the mean squared percentage error and the percent of company forecasts which were too optimistic.

Table 7 highlights the increase in uncertainty with respect to the level of supply and demand in the United States during the years after collapse of the Shah. Similar errors were probably observable in short run forecasts of free world consumption made by major oil companies.

2.1.5 The Increase in the Volatility of Prices

The final major structural change that has caused the petroleum market to evolve into a commodity market is the increase in price volatility. As Hieronymus notes "When supply and demand are large, and both uncertain and subject to wide fluctuations from season to season or year to year, a condition exists were the forces of supply and demand on free markets is constantly changing. This interplay of uncertain economic forces produces the constant fluctuations in price which must exist in any successful futures market." (Hieronymus, 1980, p 21.) Hieronymus could also note that the same conditions are necessary for the successful formation of a cash commodity market.

A comparison of data on the fluctuation of prices during the period from 1960 to 1972 and 1979 to 1984 indicates that the volatility in prices has increased substantially. Here again, The World Petroleum Market provides an absolutely essential input into the analysis. Appendices IV-B, IV-E and IV-I provide tabulations of free market prices of product and crude for the 1960 to 1971 period when such information was almost impossible to collect.[7]

The analysis of volatility in prices is made by comparing the average price level to the standard deviation in prices. Volatility was analyzed for three periods: 1960 to May 1967, 1968 to 1971 and 1978 to 1984. Data for the first two periods were taken directly from The World Petroleum Market with the last seven months of 1967 excluded due to the transitory impact of the Middle East crisis that year. The measure of volatility used here is the ratio of the mean of the price series to its standard deviation. These measures could be criticized because they fail to correct for an underlying trend in prices. However, the data for the early period exhibit no trends, and the trend in prices between 1978 and 1984 has been decidedly erratic - indeed the uncertainty as to the trend has contributed to the change in the industry. Results are shown on table 8.

The increase in the variance of heavy fuel oil since 1971 is particularly noteworthy since heavy fuel oil accounted for the largest share of product sales in Europe prior to the 1973 embargo, and because a high portion of residual fuel oil was sold at spot related prices.[8] The increase in the variance of gasoline prices is also noteworthy.

It is more difficult to perform these calculations for spot crude prices because data on crude oil transactions were not published as regularly in the 1960s or even in the late 1970's. However, a rough estimate for the period from 1968 to July 1970 can be developed from Adelman's Appendix VI-I. There information on reported transactions are reported for 22 crudes. (Adelman cautions that the data are taken from Platts and PIW and very in scope "from spot offers to long- term contracts and from precise details of transactions to unconfirmed reports.") (Adelman, 1972, p. 417) The average price for the crude reported most frequently - Iranian light 34 gravity crude - was $ 1.32 per barrel and the standard deviation was $ 0.09 per barrel for the seventeen reported transactions. The ratio of the mean to the standard deviation was 14.7. For the period from 1978 to 1984 the mean of the spot price of Arab light 34 gravity crude was 27.2 while the standard deviation was 6.54. The ratio had declined to 4.16.

In summary, the volatility of crude and product prices increased substantially, particularly after 1979. At the same time refiners were forced to bring contract product prices more in line with spot product prices. Thus, the increase in volatility was spread to a larger portion of the barrel.

2.1.5 Summary: Oil has Become a Commodity

The materials presented in the sections above show that the characteristics of petroleum markets have evolved towards those found in other, better known commodity markets. Control over the flow of the material to the market by the largest firms has been cut from more than 80 percent to less than 20 percent. Fluctuations in supply and demand have increased. Prices have become more volatile. Petroleum should continue to evolve into a more complete commodity unless these changes are reversed. In the next section we indicate that three changes in the structure of the market guarantee that the market will continue to progress towards a commodity market.

3.0 Changes in the structure of the industry which will perpetuate the shift to petroleum as a commodity

The three changes in the oil market described in the previous section can be directly or indirectly traced to actions of the exporting countries. Nationalizations of company interests and reductions in the incentive to handle third party sales clearly caused the change in the flow of oil to shift.

Increases in prices caused by exporting country mismanagement of supply contributed to economic recession, conservation and fuel substitution which made oil consumption more uncertain. Finally the inability of exporting countries to control production contributed to the volatility of prices. Each of these three actions is, in theory, reversible. However, the events of the last ten years have lead to other changes in the market, changes which are both difficult to reverse and which make a return to the past almost impossible. The most dramatic of the changes concern the approach to the taxation of resources in consuming countries and the creation of a futures market in crude oil.

3.1 Changes in Taxation of Resources in Consuming Countries

In 1972 the oil industry in the United States operated under a system of taxation that was highly favorable to resource production. Producers of resources benefitted from percentage depletion and from special regulations that permitted them to expense intangible drilling expenses. It was percentage depletion which directly affected the price of oil because the structure of the tax system encouraged producers to artificially inflate the price of oil to reduce tax liabilities.[9]

Tax reform legislation which passed in 1976 repealed percentage depletion for the major oil companies and drastically limited the benefits received by independent producers. As a result of these changes, major producers should have become indifferent with respect to the source of profits because income earned at the lease was effectively taxed at the same rate as income earned at the refinery. The period of indifference should have been short, however because further legislation enacted in 1980, the Windfall Profit Tax, created an incentive for the producer to minimize the wellhead value of crude oil because under present law, income earned from resource production of oil is almost always taxed at a higher rate then income earned from refining.

Tax regimes adopted in the United Kingdom and Norway appear to offer private companies similar incentives to cut the price of oil.

Under the U.S. Windfall Profit Tax the federal government takes approximately 85 percent of every incremental dollar when the price exceeds a certain base level (present[illegible] about $ 20 per barrel). Given the structure of the tax, af[illegible]x receipts from the production of crude oil should be rele[illegible]y constant even if there is a large variation in the pretax price of oil. Such an effect could be observed between 1981 and 1983 when pre tax receipts per barrel for a group of ten companies declined 18 percent from $ 30.73 to $ 25.21 while after tax receipts declined only 3.3 percent from $ 22.38 per barrel to $ 21.64. (PIW, February 11, 1985, p. 2.)

The Windfall Tax appears to influence the current incentives faced by almost every firm operating in the United States. According to date released by the U.S. Treasury Department almost 90 percent of all production is subject to the tax and approximately 40 percent is taxed at the highest, 70 percent, rate.

In theory, the Windfall Tax should encourage integrated producers to minimize the price of crude oil while maximizing the value added in refining because the incremental dollar per barrel output earned in production returns less than $ 0.10 after all taxes and royalties are deducted, while the incremental dollar in refining or marketing returns at least $ 0.54 per barrel. Accordingly, integrated companies should, except in special circumstances, want to lower the price set on crude oil. This incentive is precisely the reverse of the incentive offered in the 1960's under percentage depletion.

The British Petroleum Revenue Tax has had a similar impact on production incentives from the North Sea. Under the PRT, incremental revenue is taxed at a rate of 75 percent after deduction of expenses (Mitchel, 1982, p.44). This leaves the producer with incentives which are little different than those offered in the United States. The system of taxes in the U.K. does, however, offer the producer a different set of incentives than are faced in the United States. Essentially, the Petroleum Revenue Tax (PRT) and other associated systems offer mechanisms which provide for rapid recovery of capital investment, particularly from small fields. Thus, the initial production from a successful field will enable a producer to quickly recover expenditures for exploration and development. This facet of the tax is, however, independent of the price of oil. Thus, once a firm has recovered its investment from a property most, if not all, of the incremental revenue from higher prices will flow to the government, and not to the company.

An identical situation exists in Norway. Companies are permitted to recover funds invested in development projects over a six year period after production commences. The tax rate on incremental income after deduction for depreciation can be as high as 88 percent. Thus in Norway as in the U.K. and U.S., the burden of price risk is absorbed by the state.[10]

Both the North Sea taxes and the Windfall Tax are taxes on economic rents. The high marginal per barrel rates in each tax leave producers with little interest in the absolute level of prices - precisely the desired effect of a tax on rent. Under this type of a regime a producer suffers a reduction in profits only if it delays its adjustments of prices. The effect, then is to promote increased price volatility.

3.2 The Creation of the Futures Market

The second major change in structure has occurred with the introduction of a futures market in crude oil. Trading in futures in crude oil began in March 1983 on the New York Mercantile Exchange (NYMEX). The NYMEX contract calls for delivery of 1000 barrels of West Texas Intermediate crude oil (or one of nine alternative types of crude) to Cushing, Oklahoma, a landlocked location in the middle of the United States whose only justification is that it is located at the intersection of several major crude pipelines.

In theory, commencement of trading in a futures contract on a domestic U.S. crude with delivery set in a U.S. port should have no impact on the world oil market for two reasons. First, the delivery point is isolated from ports and the transportation costs would make exportation prohibitively expensive even if it were legally possible to export domestic crudes. Second, the U.S. crude oil market has always been isolated from the world market. However, crude oil futures have had an impact on the world oil market by undercutting the stability of the traditional system of crude postings.

The increased impact of domestic U.S. crudes on world oil prices (even if only temporary) was noted by the editors of PIW who suggest that, "Highly visible price quotes on the New

York futures market account for much of the leadership role enjoyed by WTI, even though it is technically a poor proxy for the international market." They argue that the prominance of WTI is especially surprising because "physical supplies are largely landlocked in US midcontinent pipeline systems, and non-exportable.(PIW, January 21, 1985).

This skepticism shown towards the futures market is not isolated. Most of those individuals involved in the oil industry have tended to view the development of the futures market with skepticism and outright hostility. Some petroleum economists appear to have had the same feelings. In reality, however, trading in futures represents the natural market response to the breakdown in control over the market and increase in uncertainty. As risks become larger it is to be expected that economic agents will attempt to find methods which permit them to transfer some portion of the risk to others. What is surprising, however, is that the development of this mechanism has become a further agent of change in the market.

The creation of a futures market in crude oil would appear to have had two impacts on the world oil market, both of which undermine price stability and enhance the commodity characteristics of petroleum. First, the futures market has permitted independent refiners in the United States to break away from the system of posted crude oil prices which historically prevented them from setting widely divergent prices. Second, the market has contributed to a drastic reduction in the cost and risk of speculation against oil prices.

3.2.1 The End of the Posting System

The system of posting crude oil prices can be traced to the 1920s. McDonald (1971) notes that oil was marketed in the field at prices "posted by the principal buyers, who were nearly always refining companies or their affiliates."(McDonald, 1971, p. 25.) The buyer then paid gathering and transportation costs to move the crude to a refining center. Both McDonald and Hamilton (1958) observe that crude postings tend to change infrequently. Further, postings have tended to be identical across companies in those fields where several firms are capable of buying crude oil This commonality of prices was enforced by government regulation of prices during the 1970s. In theory, equality of postings should continue to be enforced by the market as long as the United States remains a significant importer of crude oil. In these circumstances, any firm proposing to cut its posting would risk seeing its crude oil captured by another refiner who would not lower its posting.

Postings did behave as theory would predict from 1981 to late 1984. In one instance a firm did attempt to cut postings but was forced to rescind its cut within two weeks when other companies did not follow suit. In that case, Citgo Petroleum, the independent refining company created by Occidental Petroleum's sale of the refining and marketing arm of Cities Service Petroleum, cut its posting for WTI by $ 1.50 a barrel in mid December 1983 and was followed in a few days by a second independent refiner, Ashland Oil. Both companies were forced to rescind their cuts within two weeks because other firms failed to follow. Citgo's and Ashland's actions suggest that market conditions were such that the supply of crude at a $ 1.50 discount was inadequate for their needs.

The situation was different, however, in the fall of 1984. Cuts in postings of $ 1.00 per barrel were initiated by four independent refiners in mid October and then followed by others in early November. Further cuts were made in December and early January. By the end of the first week of January Citgo had posted a price of $ 25.90 a barrel and several other independents had set prices at between $ 26.50 and $ 27.00. Meanwhile, the major refiners held their postings at $ 29.00 per barrel. Thus in late 1984 and early 1985 the independent refiners had been able to break away from other refiners whereas they had been forced to conform a year earlier. One explanation for the change in behavior may be found in the futures market. The futures market had developed into a viable alternative source of crude in the twelve months between December 1983 and December 1984. By December, 1984 U.S. refiners were obtaining approximately 4 percent of their crude supplies either directly or indirectly through the futures market from 2.1 mbd in June, 1983 to 370 mbd in February, 1985.

Thus, one effect of the introduction of trading in crude oil futures has been to offer a viable source of supply to independent refiners. This change has, in turn, enabled them to cut their crude postings more freely.

3.2.2 Reduction of the Cost of Speculation

Introduction of trading in crude oil futures has also contributed to a reduction in the cost of speculation in crude oil by lowering two serious barriers to entry into the crude market. Prior to the creation of the crude futures market entry by smaller speculators was barred by the large size of the average traded lot and the unwillingness of traditional buyers to do business with unknown and presumably undercapitalized firms.

The size of the average tradable lot was was probably the greatest impediment to entry into the crude market in the past. On the international market the average lot was generally thought to be a VLCC or ULCC cargo of crude - 600,000 barrels of oil or more. The cost of such a cargo would have ranged from $ 6 million to $ 20 million. In the U.S. market the average lot still represented a considerable expense although they were smaller - 10,000 barrels to 50,000 barrels. As a consequence both markets were illiquid. Further, entry was difficult because most oil companies were extremely reluctant to buy from an unknown supplier (trader). Thus, an individual or firm desiring to speculate in crude oil prices first needed to establish a record as a proven and dependable trader before it could presumably speculate in crude by selling oil that it had not yet acquired.

The creation of a successful futures market has substantially cut the cost of speculation against crude prices by increasing liquidity of the market, reducing the size of the tradable lot to 1000 barrels and removing the need to establish a reputation as a proven, dependable trader. Entry to the futures market is controlled by the commodity brokers who only require that potential speculators make adequate deposits of cash or securities to guarantee their financial performance. The value of these deposits can be as low as $ 5,000.00, a much smaller entry fee.

Data collected by the U.S. Commodity Futures Trading Commission suggest that speculators took advantage of the lowered cost of entry to speculate against crude oil in the fall of 1984. These data, which are summarized on Table 9, show that open interest[11] in crude futures increased from 37. 6 million barrels at the end of October 1984 to 49.2 million barrels at the end of

December. Further, the share of the short side of the market held by speculators increased from 53 percent to 68 percent while the share of the long side of the market held by commercial firms increased 72 percent to 82 percent. Essentially, speculators sold and oil companies bought during this period of time.

The net short position of speculators increased by 14,734 contracts (14,734 million barrels of oil). Translated to a barrels per day basis this amounts to between 250 to 400 thousand barrels a day.[12] These sales had the effect of increasing the apparent supply of crude oil by non OPEC producers neutralizing in part cutbacks in production announced by members of OPEC on October 31, 1984. Prices then declined because OPEC did not make further compensating cuts in production.

4.0 Conclusion

The world petroleum market has gone through a series of transformations since 1972. Oil has emerged as a commodity. The process began when exporting countries took control of their own resources. It was then furthered when the multinational oil companies elected (or were denied) the opportunity to be the marketing agents for the exporting countries. Then, discoveries in non OPEC areas reduced OPEC's control over the flow of oil to the market. Finally, the price increases of 1979 and 1973 changed the relationship between oil consumption and economic activity causing supply and demand to become more volatile. Simultaneously, the adoption of new tax systems in Britain and the United States reduced producer interest in stable prices, effectively increasing price volatility. Lastly, the creation of a futures market in petroleum created a mechanism which opened the oil market to a much larger number of participants.

The consequence of these changes is a much more open and transparent oil market. Prices change daily and are duly reported in many different sources. Control appears to have passed from a few organizations to the market. It is difficult to determine whether price movements in the long run will be wider. However, it is clear that price changes will be more frequent than they were in the past.

Short of nuclear war, the transformation of the industry could be reversed in only two possible ways: a return to the system of preferential agreements between the multinational companies and the producing countries which existed prior to 1972 or the complete downstream integration by producing countries. Since a return to past regimes seems out of the question, the only real possible solution for producers would seem to be to become fully integrated from the wellhead to the pump. Some countries, such as Kuwait, have started down this road. Many officials of OPEC countries seem to think that this type of downstream integration will prove to be the cartel's salvation.

However, I would reach a different conclusion. Downstream integration is not enough. Instead, the market stability which existed in the 50s and 60s resulted from the maintenance of sufficient surplus capacity to meet any unexpected surge in demand. At the same time, the joint production agreements provided multinational companies with the ability to exert control over total output both among themselves and within exporting countries.

To achieve a return to the market stability of the past, producers need to exert control over output in a fashion which will achieve the effect of the market structure which existed in 1972. Both prices and consumption need to be stabilized. Uncertainty must be eliminated. Oil will not be "decommoditized" simply by ending the current glut because the return to a tight market will not eliminate uncertainty. Instead, prices will once again spiral upward. Oil can only be removed from the list of economic commodities through the establishment of joint producing agreements and maintenance of sufficient surplus capacity in producing countries. This is an outcome which seems beyond the ability of the members of OPEC. Thus, I am lead to the conclusion that oil has become a commodity.

Table 1
OPEC Nations Share of Free World Oil
Production, Excluding North America and
Eight Company Share* of the Market
(Percent)

Year	OPEC Share	Eight Company Share of OPEC Sales
1950	NG	100%
1957	NG	92
1966	90%	84
1969 first half	87	81

Source: M.A. Adelman, The World Petroleum Market, pp. 81.

* The eight companies were Esso, B.P., C.F.P., Gulf, Mobil, Standard Oil of California, Shell and Texaco.

Table 2

Production of Principal Crude Oil Companies and Producing Countries in the World Oil Market, 1969 — First Half (Thousand Barrels per Day)

	Esso	Mobil	SoCal	Texaco	BP	Gulf	Shell	CFP	Others	Total
Persian Gulf										
Iran	208	208	208	208	1,192	298	417	178	394	3,223
Iraq	181	181			361		361	361	76	1,520
Qatar	23	23			45		203	45	9	348
Abu Dhabi	49	49			236		99	167	21	620
Kuwait					1,254	1,254				2,508
Saudi Arabia	870	289	870	870						2,898
Oman							256		45	301
Other									453	453
SUBTOTAL	1,331	750	1,078	1,073	3,087	1,462	1,335	751	999	11,871
Africa										
Libya	683	126	181	181	155		119		1,561	3,006
Algeria							85	249	602	936
Nigeria					168	200	168			536
Other						36	63		406	505
Indonesia*	25	25	285	285			138		90	848
Venezuela	1,472	112	56	171		383	916		424	3,534
TOTAL	3,511	1,013	1,600	1,692	3,433	2,081	2,824	1,000	4,082	21,236

*Includes Brunei and Sarawak.

SOURCE: M. A. Adelman. 1972. The World Petroleum Market. Washington, D.C.: Johns Hopkins University Press: pp. 80-81.

Table 3

Production of Principal Crude Oil Companies and Producing Countries in the World Oil Market 1984 - First Half

	Esso	Mobil	SoCal	Texaco	BP	Gulf	Shell	CFP	Others	National Oil Companies	Total
Persian Gulf											
Iran										2,164	2,164
Iraq										1,152	1,152
Qatar	7	7			15		15	15	107	~~416~~ 250	416
Abu Dhabi	15	15			36		36	26	193	[illegible] 482	803
Kuwait										983	983
Saudi Arabia										4,951	4,951
Oman									1	403	403
Other				35					724	839	1,598
SUBTOTAL	22	22		35	41		41	41	[illegible] 1,015	~~11,711~~ [illegible]	12,470
Africa											
Libya									686	481	1,167
Algeria										617	617
Nigeria		176	28	28		173	715		252		1,372
Other				10		182	16	11	538		756
Indonesia*		95	305	305			173		815		1,693
Malaysia	246						216				462
Venezuela										1,820	1,820
Ecuador				216					27	4	247
TOTAL	[illegible] ~~246~~	[illegible] ~~271~~	333	596	41	355	[illegible] ~~1,120~~	[illegible] ~~11~~	3,043	~~14,633~~ 14,146	20,604

*Includes Brunei and Sarawak.

Note: Adelman notes "There are numerous small discrepancies among all these sources and it is impossible to reconcile them fully." The same comment applies here. Volumes of production are assigned to companies listed in the Oil and Gas Journal Worldwide Report. In some cases the production is shared between two or more companies. In other cases, the production is shared with the government. In this table these distinctions have been ignored except in the case of the well known production sharing agreements. Data published in company annual reports will differ from the totals shown here because compapnies include only the share of production which is actually owned by a company.

SOURCE: Oil and Gas Journal 82, 53. December 31, 1984.

Table 4

Relative Share of Free World, non North America Production by OPEC and Other Producing Countries 1973 and 1983 (thousand barrels a day)

Area	1973 Production	Share	1983 Production	Share
OPEC	31,600	69.6%	18,700	63.2%
Mexico	550	1.6	2,950	10.0
United Kingdom	--	---	2,360	8.0
Egypt	225	0.6	775	2.6
Norway	35	0.1	625	2.1
Argentina	420	1.2	490	1.7
Others	2,040	6.9	3,370	12.4

Source: *British Petroleum Statistical Year Book*, 1984.

Table 5

Sources of Crude Oil to Japan (million barrels a day)

Source	1976-78	Percent Share*	1980-81	Percent Share*
Japanese Oil Companies				
Traditional Contracts	1.50	50 %	0.25	8%
Producer Nation Contracts	0.85	28	1.45	45
Spot Type Purchases	0.25	8	1.10	34
Overseas Production	0.40	13	0.40	13
Sub-total	3.00	100	3.20	100
Foreign Oil Companies Inter affiliate Purchases	1.80		1.70	
Total	4.80		4.90	

Source: *Petroleum Intelligence Weekly*, February 25, 1980, Vol. XIX, No. 8, p. 4.

Note: Percent shares refer to distribution of supply of oil to Japanese oil companies.

Table 6
Projections of Free World Oil Consumption
for the Year 1985

	Year of Forecast					
Forecast	1977	1978	1979	1980	1981	1982
CIA	70					
IEA	64	65	56		53	
CRS	69					
DOE	66	66	48	48	49	51
WAES	61					
EPRI		66				
Exxon		65				
Shell		64	56		53	
Chevron			59	54	49	48
Texaco				58	52	

Source: U.S. Department of Energy, Annual Review of Energy, various issues, company publications, and the Oil and Gas Journal.

Table 7

Summary of Forecasts of U.S. Petroleum Consumption
Submitted to the Texas Railroad Commission

Year	Mean Projected Increase (Percent)	Actual Increase (Percent)	Forecast Error Percentage Points	Mean Squared Percent Error	Projections which Exceeded Actual (Percent)
1975	1.0%	2.0%	1.0	2.9	95.5%
1976	3.5	7.0	3.5	7.7	3.4
1977	4.3	5.6	1.3	2.6	8.0
1978	2.5	2.3	0.2	0.9	65.4
1979	2.1	-1.8	-3.9	19.4	95.5
1980	-1.2	-7.8	-9.0	54.5	100.0
1981	-2.1	-5.9	-8.0	22.1	90.6
1982	-1.6	-4.7	-6.3	26.9	78.9
1983	-0.8	-0.8	---	8.0	56.4
1984	2.3	4.2p	1.9	8.1	14.3

Source: Texas Railroad Commission (Column 1), U.S. Department of Energy (Column 2), calculations by the author.

Table 8

Comparison of Mean and Variance in Product Prices in North West Europe for Three Periods

	1960-1967	1967-1971	1978-1984
Gasoline			
Mean (cents per gallon)	5.95	6.33	85.64
Standard Deviation	0.67	0.99	17.76
Ratio	8.88	6.39	4.82
Gas Oil			
Mean (cents per gallon)	7.20	7.91	82.54
Standard Deviation	1.22	1.62	20.30
Ratio	5.90	4.88	4.07
Heavy Fuel Oil			
Mean (dollars per barrel)	4.28	5.24	23.14
Standard Deviation	0.23	0.55	5.87
Ratio	18.39	9.53	3.94

Source: Adelman, The World Petroleum Market, Appendix IV.B, Petroleum Intelligence Weekly.

Table 9

Open Interest and Position of Hedgers and Speculators in the Crude Oil Futures Contract

		Market Shares			
		Speculators		Hedgers	
Date	Open Interest*	Percent Long	Percent Short	Percent Long	Percent Short
July 1983	5,140	73.9	63.5	26.1	36.5
August 1983	6,742	51.5	58.4	48.5	41.6
September 1983	10,314	47.8	53.7	52.2	46.3
October 1983	11,786	44.3	43.1	55.6	56.9
November 1983	19,351	32.7	38.8	67.3	61.2
December 1983	21,554	40.5	48.1	59.5	51.9
January 1984	23,168	22.4	34.4	77.5	65.6
February 1984	27,650	31.8	40.7	68.2	59.3
March 1984	28,142	26.3	36.5	73.7	63.5
April 1984	26,647	31.2	45.8	68.8	54.2
May 1984	23,970	43.5	22.9	56.5	77.1
June 1984	28,635	22.8	36.8	77.2	63.2
July 1984	37,349	16.8	47.9	83.2	52.1
August 1984	32,245	26.9	37.3	73.1	62.7
September 1984	37,613	30.0	45.4	70.0	54.6
October 1984	37,613	27.1	52.7	72.9	47.2
November 1984	39,896	28.9	55.9	71.1	44.1
December 1984	49,201	18.3	67.8	81.7	32.1

* open interest in contracts. One contract represents 1000 barrels.

Source: CFTC, Commitments of Traders

Note: CFTC data distinguish positions in three categories. These are commercial positions, non commercial positions, and non reportable positions (traders holding less than 50 positions). Here speculators are defined as non reportable and non commercial positions.

References

Adelman, M.A. (1972), The World Petroleum Market, Baltimore, Johns Hopkins University Press for Resources for the Future.

Adelman, M.A. (1980) "The Clumsy Cartel," The Energy Journal, Volume 1, No 1.

Adelman, M.A. (1982), "OPEC as a Cartel," in Griffin and Teece, eds., OPEC Behavior and World Oil Prices, Boston, Mass., George Allen and Unwin.

Arthur, Henry B. Commodity Futures as a Business Management Tool, Cambridge, Mass. Harvard University Press, 1971.

Baer, Julius B. and Olin Saxon, Commodity Exchanges and Futures Trading, New York, Harper Brothers, 1948.

Bohi, Douglas R. and Milton Russell, (1978), Limiting Oil Imports, An Economic History and Analysis, Baltimore, Johns Hopkins University Press for Resources for the Future.

Griffin, James and David Teece (1982), OPEC Behavior and World Oil Policy, New York, Allen and Unwin, 1982.

Hamilton, Daniel C. (1958), Competition in Oil, The Gulf Coast Refinery Market, 1925-1950, Cambridge, Mass., Harvard University Press, 1951.

Hieronymus, Thomas A., Economics of Futures Trading, New York, Commodity Research Bureau, 1982.

Kemp, Alexander and David Rose (1983), Petroleum Tax Analysis: North Sea, London, Financial Times Business Information, June 1983.

Jacoby, Henry D. and James L. Paddock, "Supply Instability and Oil Market Behavior," Energy Systems and Policy 3, (4), (1980), 401-423

McDonald, Stephen L., Petroleum Conservation in the United States, Baltimore, Maryland, Johns Hopkins Press for Resources for the Future, 1971.

Roeber, Joe (1979a), "The Dynamics of the Rotterdam Oil Market," Petroleum Economist, Volume XLVI, No. 2 (February 1979), pp. 49.

Roeber, Joe (1979b), "The Wilder Shores of the Oil Trade," Petroleum Economist, Volume XLVI, No. 3 (March 1979), pp. 101.

Roeber, Joe (1979c), "Oil Markets: Paradox and Platitude," Petroleum Economist, Volume XLVI, No. 4 (April 1979), pp.41.

Verleger, Philip K., Jr., (1982) "The Determinants of Official OPEC Crude Prices", The Review of Economics and Statistics, Volume LXIV, No. 2 (May 1982), pp. 177.

Footnotes

1. It may be noted that a successful market in products had flourished in Northwest Europe after 1950. The data on transactions in this "Rotterdam" market formed the basis for many of the calculations in *The World Petroleum Market.* However, the Rotterdam market was a unique institution in oil until the late 1970s or early 1980s.

2. *Petroleum Intelligence Weekly*, Volume 18, Number 2, March 19, 1979 page 4.

3. This calculation is not exactly comparable to the one reported by Vernon. According to data shown in the individual company annual reports, the seven majors indicate that they distributed 13 million barrels of products through their affiliates. Their total market amounted to 17 million barrels a day including third party sales. Of course, some of the crude required to supply the 13 million barrels a day of products distributed was purchased from other oil companies including producing country companies.

4. The process was originally noted in Adelman (1980) and formalized in Jacoby and Paddock (1980) and then quantified by Verleger (1982). The empirical results in Verleger indicate that the official price of Saudi light is changed by approximately $ 0.30 in the current quarter for each $ 1.00 difference between netbacks and official prices in the prior quarter.

5. The experience of many companies during the spring of 1979 provides an excellent example. As the first episode of price increases came to an end in March Libya, Algeria and Indonesia notified term customers that liftings would be reduced by 15 to 18 percent. (PIW March 12, 1979). Then in April, PIW reported that Saudi Arabia had arbitrarily directed volumes of crude away from the Aramco customers in order to increase government to government sales. The amount of the cut was estimated to be 400 thousand barrels per day. *PIW*, May 14, 1979.

6. Each year in January or February the Texas Railroad Commission has collected projections of total petroleum consumption for that year from the major companies operating in Texas. Prior to 1973 these forecasts were used to assist in setting allowables for the year. The practice continued until 1984 despite the fact that no production had been shut in for years. The forecasts were published with company identification in the Commission's March statistical report.

7. Estimation of arms length prices for transactions in crude in the 1960 to 1971 is quite difficult because the number of deals was few and the interest of secrecy great. Thus I would guess that Adelman and his assistants were forced to comb through over 2000 separate issues of *Platt's Oil Price Service* and *Petroleum*

Intelligence Weekly looking for the occasional reference to a transaction price. These estimates then had to be put on a common footing by correcting for differences in transportation costs and gravity. Today, the academic economist can obtain the same information from a simple table in Platt's.

8. See Adelman (1972) page 367 for market shares. Roeber (1979b) documents the importance of Platt's prices to prices charged to consumers of heavy fuel oil.

9. McDonald (1971) notes the following. "In fields or market areas where buyers produce about 80 percent or more of the oil they buy, it is profitable for such buyers to transfer net income from transportation and refining to production by overpricing crude oil relative to products. This increases the benefits of percentage depletion, which is based on the wellhead value of oil, and thus reduces the effective tax rate on aggregate income." (Pp. 192.) It turns out that the breakeven percentage is closer to 30 percent for many oil companies because few firms paid a marginal tax rate of 50 percent.

10. The best description of North Sea petroleum taxes are to be found in the works of Kemp and Rose. See for instance Alexander Kemp and David Rose, *Petroleum Tax Analysis: North Sea*, Financial Times Business Information, June 1983.

11. Open interest refers to the number of contracts outstanding at the end of a trading day. Arthur (1971) offers the following definitions. *Open Contracts* - contracts in the futures market which have been bought or sold without the transaction having been completed by subsequent sale or repurchase, or actual delivery or receipt of commodity. In any futures market, at any given time, the number of futures contracts bought by all customers exactly equals the number sold by the same or other customers. Thus, published figures representing *OPEN INTEREST* always mean either the total of *OONG* contracts or the total number of *SHORT* contracts, never the sum of the two." Henry B. Arthur, *Commodity Futures as a Business Management Tool*, Cambridge, Mass., Harvard University Press, 1971, pp 376.

12. This calculation assumes that the 14 million barrels represented a commitment to deliver during a period of 40 to 60 days. Of course few if any of the speculators ever intended to deliver oil. Instead, the commitments would repurchased later. However, the sales have the same impact on the market as a promise to make forward physical delivery if the futures prices and cash prices converge at the expiration of trading.

Mr. **Sharp**. Thank you very much. We will now turn to our final witness, Mr. Gary Ross from the Petroleum Industry Research Associates.

STATEMENT OF GARY N. ROSS

Mr. Ross. Thank you. I am very happy to be here today. My name is Gary Ross and I am president of consulting activities for Petroleum Industry Research Associates.

What I would like to do today is talk a little bit about OPEC and OPEC vulnerability. I think a lot of the things that Phil was pointing out are absolutely true but I think you cannot lose sight of the fact that OPEC certainly has the potential at least to regain control over the market. When the market was driving oil prices in the 1970's, OPEC accelerated the rate of price increases. Now that market forces are bearing down on oil prices, OPEC is still restraining the effect of market forces on oil prices and is slowing the rate of decline. While they are in disarray and they face a great deal of pressure because of the large amount of vulnerabilities, there is a possibility that they will rise again with some kind of new structure which could lead to somewhat higher prices than we have seen. Let's go through why. I want to show you some of the vulnerabilities.

Their price maintenance system is flawed and there is no upside potential in OSP. The Saudis are a major factor behind this as well. The very oil that Phil was talking about which is stored around the world, the Saudis are ready and willing to supply whenever the market wants. So anytime there is upside pressure on prices like there was in February 1985, resulting from the extraordinarily cold winter in Europe, the Saudis are ready to sell you oil at OSP.

So effectively they allow no upside potential in prices and buyers are always looking at the maximum price being the OSP price and clearly they are always looking south for prices to go down.

OPEC reacts rather than anticipates, excess inventories are OPEC's nemesis. OPEC supplies whatever the market wants. Their quotas really have not been effective. The countries are eager, very eager to sell as much oil as they can. They loosely abide by the quota and they all have their little games that they play.

Nigeria in the last couple of weeks has announced that 200,000 barrels per day of the oil they were producing is now suddenly being defined as condensate and therefore, not part of the OPEC quota.

You have the Saudis claiming that the war relief crude they were producing on behalf of Iraq was an Iraqi quota and the Kuwaitis claiming the same while the Iraqis have ignored the fact that they are getting war relief from the Saudis and Kuwaitis.

So they are ready and willing to supply whatever the market wants and once they supply what the market wants and say the market mis-estimates what demand is likely to be—let's say demand is lower than what they anticipated and suddenly you have more inventory than you need—why would anyone want to hold inventory?

If there is no upside potential in prices and if you look at the futures market which has indeed become important, and you see the futures always being discounted, why hold oil? All the forces that were pushing oil up in the 1970's because it was an appreciating asset, are pushing it down now. Producers are saying I had better produce every barrel I can out of the ground now because it is going to be worth more today than tomorrow and clearly, I don't want to hold any more oil in inventory because it is going to be worth less tomorrow than today.

No official swing producer, another important point, the Saudis were the swing producer. By definition a swing producer is the highest price supplier to the market, the strongest country within the organization, one that can withstand the pressure on the downside when the market wants less oil and at the same time gets the ups when the market wants more oil.

The Saudis don't want to be swing producers. They can't swing any more and that is the basic crisis that OPEC is in today because Saudi production is down below 2.5 million barrels per day and they don't know when it is going to end because all of the uncertain demand forecasts have basically been wrong.

IEA studies show that you need at least a 2 percent real GNP growth in the OECD countries before you can get any positive oil demand growth whatsoever and we have been going into a slower economic growth environment and the question is where are we going from here and the Saudis are worried about it. They are worried about the potential that they might get stuck at a two or 2.5 level for some time to come and that is unacceptable to them.

Discipline continually being tested due to low requirements for OPEC crude. We see that the market is going to require somewhere on the order of only 15 to 15.5 million barrels per day of OPEC crude oil in the third quarter of this year versus a 31 million barrel per day production level that they had in 1979, and even in the fourth quarter when you have the seasonal peak in demand, we think that the market is only going to require somewhere on the order of 15.5 to 16 million barrels per day of crude from OPEC. These are very low levels.

At the same time we have seen the dollar, since March, decline 10 to 15 percent relative to the major European currencies and that is also hurting OPEC increasingly.

Incremental product exports, processing and barter deals undermine OPEC OSP's. Clearly if you have on average spot crude price which is always below OPEC contract crude there will also be a tendency for spot product prices on balance or on average that would be cheaper than that barrel of OPEC contract crude, so long as there is excess refining capacity which exists worldwide.

So to the extent that OPEC is selling products rather than crude, they are undermining their own official sales price system. To the extent that they are processing outside their own countries, they are undermining their system.

As Phil said, they are removing the risk, they are taking the risk in these processing deals away from the buyer and they are putting them on themselves, similarly with barter deals.

The Iraqi pipeline is reportedly being filled over the next 10 days, or it will start to be filled, and Iraq is going to be expanding production of a half a million barrels per day. Who makes room for that incremental Iraqi production when that comes to market? Will the war relief crude from Kuwait and Saudi Arabia disappear and therefore partially replace it, or who in OPEC is going to move aside?

Finally, domination of world oil trade by spot related transactions. Clearly that is the way we have been going. Now you cannot have any confidence about world oil prices unless you have some confidence about OPEC's system of price maintenance and currently their system is fundamentally flawed. It can't work. There is only one direction for prices to go and that is down.

Now does that mean that they can't change it? No, it doesn't mean that they can't change it. In fact, one can think of a rather simplistic way that they can change it which would be very effective. They can establish a very, very low quota, say 12 million barrels per day, where OPEC sells all its oil at contract prices. For every barrel above 12 million barrels per day that the market requires, you have an OPEC marketing commission a central organization which markets the oil on behalf or at least directs the companies to lift from which countries and this oil that is supplied above the 12 million barrels per day let's say is at $3 above the contract price.

In this way, the incremental barrel becomes a more expensive barrel. In this way, you eliminate to a great degree the downward pressure on prices. You give people a reason to want to have access to contract crude.

My only point is yes, all the pressure is down but you can't lose sight of the fact that this organization still supplies 15.5 million barrels per day of the world's requirement out of 45 and there is a potential at least for them to change the way in which they manage their system.

Let's take just a very quick look at how we see the environment out to 1990. This shows vividly what has happened between 1979 and 1984 where OPEC production has gone from almost 31 million barrels per day down to 17.3 and now in 1985 is half the 31 million barrels per day.

Mr. SHARP. Dr. Ross, could I interrupt you. We are under the time gun to go vote and if you were about to conclude, we will let you conclude. If you have some more, we will come back. We will come back any way for questions either way.

Mr. ROSS. Why don't I conclude very quickly.

Mr. SHARP. All right.

Mr. ROSS. I can conclude very quickly. Basically the numbers that we are showing here are typically less than the industry has had in terms of their consensus view. We are not that optimistic on demand. We see major problems with economic growth over the next 3 to 4 years. We see that that is going to tend to constrain energy use and in turn oil use and therefore, you also have surplus gas availability worldwide which is going to restrain the extent of oil demand growth.

We still see non-OPEC supplies remaining flat. On balance, you are still going to have a tremendous amount of excess producing capacity that OPEC is going to have. If they are going to maintain anything like today's prices, they are going to have to change their system of price management and that is not going to be an easy task.

[The following table was submitted:]

NON-COMMUNIST WORLD (NCW) OIL SUPPLY/DEMAND BALANCE, 1979 TO 1990

(MILLION BARRELS PER DAY)

	1979	1983	1984	1985	1990
NCW CONSUMPTION	51.9	45.2	46.1	45.8	47-49
NON-OPEC SUPPLIES	21.5	26.4	28.1	28.5	28-29
OPEC NGL OUTPUT*	0.9	1.2	1.4	1.3	2.0
REQUIRED OPEC CRUDE OUTPUT	30.8	17.4	17.3	15.6	16-19
STOCK CHANGE	+1.3	-0.2	+0.6	-0.3	+0.2

*INCLUDES CONDENSATE

OPEC VULNERABILITY

- PRICE MAINTENANCE SYSTEM FLAWED: NO UPSIDE POTENTIAL IN OPEC OSP'S
- OPEC REACTS RATHER THAN ANTICIPATES; EXCESS INVENTORIES ARE OPEC'S NEMESIS
- NO OFFICIAL SWING PRODUCER
- DISCIPLINE CONTINUALLY TESTED DUE TO LOW REQUIREMENTS FOR OPEC CRUDE
- INCREMENTAL PRODUCT EXPORTS, PROCESSING AND BARTER DEALS UNDERMINE OSP'S
- INCREMENTAL IRAQI OUTPUT LATE 1985 - IRAN?
- DOMINATION OF WORLD OIL TRADE BY SPOT RELATED TRANSACTIONS

Mr. SHARP. Thank you very much, Dr. Ross and panel, we are going to take a break. We have a quorum call followed by a 5-minute vote so that is probably 15 or 20 more minutes and then we will come back for questions for the panel. Thank you for bearing with us.

[Brief recess.]

Mr. SHARP. The subcommittee will come to order. I guess you were finished, Dr. Ross. I am sorry about the interruptions with the bells during your testimony there. Let me start with you, Mr. Eck, and just first ask a couple of questions. You were concerned with the tax bill obviously. Did I understand you to say that one of your chief concerns is the recapture provisions where they go back on the accelerated cost recovery and the ITC's and that is where you think there will be a major impact which I guess is like $57 billion, but that is where you think that there is going to be an impact on the industry?

Mr. ECK. There are really two serious problems. That is the most serious by far in terms of cash-flow impact and the other is investment tax credit. Let me just say that there is also a lot of unknown out there.

Mr. SHARP. The loss of the investment tax credit.

Mr. ECK. Yes. The loss of the investment tax credit but there are a lot unknowns. It is not the least bit clear what happens to tertiary injection materials, for example. It was in Treasury I and they are silent in Treasury II.

Another thing and I don't how many people caught it, but it looks to me like you have to capitalize all interest expense in the oil industry because for any project that takes more than 2 years to build, you are suppose to capitalize.

In the oil business, you really can't build anything in less than 2 years basically. So it seems to me like there are real serious implications for the flow of capital into an industry that is already not getting any net external capital inflow. But by far and away the overriding considerations are investment tax credit loss and this retroactive tax.

Mr. SHARP. So all the talk about the drilling expenses and the percentage depletion are not as—and obviously the administration came back and allowed those.

Mr. ECK. That was our concern with Treasury I that in Treasury I the economics of drilling were just destroyed by the loss of intangibles but that was restored in Treasury II but again, Treasury II is no free ride for anybody that is capital intensive industries whether you are in oil or cement or steel or whatever. It is a real disaster for a capital intensive industry.

Mr. SHARP. The lower corporate rate does not compensate?

Mr. ECK. No, sir.

Mr. SHARP. Those corporations which are not capital intensive obviously get the benefit of the lower rate. They are paying the higher rate, we think, and are not taking advantage of the ITC's.

Mr. ECK. The real economics are the corporations per se lose $120 billion and you can divide that up any way you like but it is still a loss, a big loss.

Mr. SHARP. Let me ask you on the intangibles and the percentage depletion, how do you justify retention of one select set of incentives, subsidies, tax breaks or whatever you want to call them in this industry when I believe I am correct they are by and large being eliminated in all other energy resource areas or conservation areas? Do you think that is justifiable?

Mr. Eck. Let me just address depletion. Depletion is actually a major consideration say in the coal business. It is probably more important in coal than it is in oil. There are other industries that are suffering. The coal industry is saying that we are in big trouble here from loss of depletion.

Depletion has not been available to major oil companies for some time and in the case of independents, it is important but it is not critical to their economics.

Intangibles are critical to their importance. Now you ask, how can you justify intangibles? I think the real issue and I think you are hitting on a very logical way of addressing it is you have to look at what is the total tax burden of the code.

The facts are and unfortunately not too many people understand these facts, but the facts are that the petroleum industry bears a higher average tax burden per dollar invested in other industries and the reason for that is cost depletion, that a lot of the well is cost depleted so instead of getting ACRS five year write-off for everything like a steel company or any other company, we get life of the well. So if it is an 18-year well, then it is an 18-year write-off.

That is the current law. So if you take the present value of all of the tax burden per dollar of investment and again petroleum pays a higher present value. In economics terms what we would say is that we have a higher user cost of capital on an after tax basis under the current code.

Mr. Sharp. What you are saying is that is going to go higher with the change?

Mr. Eck. Yes, sir.

Mr. Sharp. Let me ask you on your concerns about the FERC proposed rule, is it not true that the general thrust of the rule is simply to break up the monopolistic positions of the pipelines and really be opening up competition so that competitive pressures in the market have their full bearing on every segment?

I mean it doesn't do it cleanly and clearly, but isn't that the general thrust and does not that square with the sort of traditional Amoco view of how we ought to rely on the market forces to make these determinations?

Mr. Eck. Yes, sir. I think that is absolutely correct. I think most analysts have said 85 percent of the words are good. It is just that other 15 percent and it is implications. The real problem is the block pricing, for example, that just kind of came out of nowhere like the retroactive tax. Where did it come from? Why this? I just for the life of me don't think it will work in any socially desirable manner.

Then we have always said and consistently that you just can't legislatively set aside contracts, that you have to have a contractual mechanism in a capital intensive industry where there are very long term pay-outs and unfortunately for whatever reason, defacto contracts can be completely abrogated over a 4-year period and then there is the issue of take or pay.

Again, I don't see the pipelines and nobody sees how you can justify new pipelines or frontier or whatever access without take or pay provisions. Again, that is not just in the oil industry or gas industry or other industries. So the basic thrust of the initiative, you are correct, is market constructive.

Mr. **Sharp**. I might add unless we are looking at the take or pay a little differently one of the things that we thought was cleared up in our hearing with the FERC Commissioners was they said—contrary to how we and a lot of other people interpreted what they wrote—is that they do not eliminate take or pay contracts in the future.

Now they may make it more difficult to get good ones but they don't eliminate them. I think some of us assumed they clearly had eliminated take or pay as not a prudent way to operate.

Mr. **Eck**. Yes, sir. I think we would conclude that with the block system, a take or pay contract really would not have any validity any way. The total mechanism basically precludes contractual relationships. It throws the entire acquisition of gas into a spot purchase mode and quite frankly, that doesn't work in the oil business.

We in a giant refinery just can't rely on spot cargoes to service our core markets and I really can't believe that the gas industry can service its core markets relying on targets of opportunity in the spot market.

Mr. **Sharp**. Thank you. I had not intended for us to spend the whole time on the FERC rule. We will have more opportunities, I suspect, on that. Let me just go ahead and recognize one of my colleagues here. I think Mr. Tauzin had originally arrived first in the order of the way we keep attendance here at the committee and so I will recognize the gentleman from Louisiana for 5 minutes.

Mr. **Tauzin**. I thank the Chair. Mr. Eck, you have gone into great detail on the FERC proposed regulations and I know the chairman has quizzed you about your views on a lot of them but you have made some points that we have been reflecting upon in our office as well as we review those regs and I wanted to elaborate just a bit with you on some of those points.

You are concerned about the fact that there is an encouragement toward abrogation of contracts under the block building procedures proposed by FERC and what we have been concerned about as we look at that new procedure is that the cushion gas that is enjoyed by some of the pipelines is in fact preserved for customers under the new FERC regulation and will most certainly continue to be delivered because it will be chosen for delivery by the consumer under this regulation, that it is the higher priced gas which is currently rolled in to prices that will be in fact left with the pipeline under this new procedure.

What relief does a pipeline have against the producer under those circumstances?

Mr. **Eck**. I guess first of all there is a misperception that the cushion gas problem goes away. It just gets shifted. It gets shifted to the LDC or the local distributing company or whoever the ultimate receiver is. The disparity still remains as long as we have the preservation of the multiprice system with the "104" old gas. The cushion problem is still there, it is just shifted.

Mr. **Tauzin**. It is just shifted from the pipeline onto someone else.

Mr. **Eck**. Right. I think you are absolutely right that the pressures on the pipelines just become overwhelming, absolutely overwhelming, that here they have the local distributing companies abrogating contracts and they have the ability to abrogate 25 percent times 4 equals the entire contract so they lose the whole market.

I think you are quite right. That is what we fear, that they will have to come to the producer and say, "Hey, we can't sell your gas. There is no market." That is how not only are past contracts threatened but the future capacity to negotiate contracts.

Mr. **Tauzin**. There is no provision in the FERC rule for the pipelines themselves to abrogate their contracts with the producers but we have seen in the last few years that pipelines have been quite successful at almost unilaterally altering the terms of contracts or claiming force majeur. What have you in court battles over the issue?

Do you think that would be exacerbated by this rulemaking?

Mr. **Eck**. Yes, sir. It would be immensely exacerbated, no question about it. That would be the difficulty.

Mr. **Tauzin**. The additional problem we saw from the Louisiana perspective is that most of the gas that goes from the intrastate market to the interstate market is "311" gas and that was a procedure specifically designed to encourage movement of intrastate gas into the interstate market and if we read it correctly the rulemaking now says that the pipelines do in fact move gas through "311" and that they could be subject to the prices, terms, movement requirements of the new proposal and that therefore, they would have to almost subject themselves to Federal regulations as though they were an interstate pipeline.

Is that your version of this thing?

Mr. **Eck**. That is absolutely correct. It is really that the power to license is a power to regulate. So it is rather like in your hometown if you want to build a house you have to get a building permit and if you get a building permit, you have to agree to all these regulations. That is essentially the very clever technique actually that is being employed here.

If you want to deliver gas, you have to get this permit and you get this permit, in effect, you have bought this entire package of complex, mysterious regulations.

Mr. **Tauzin**. You have the problem of fixed costs in pipelines as well. Just suppose that indeed the customers on a given pipeline opt to keep all the cheap permanently controlled gas and opt out of their contracts for the higher priced block two gas and go out and find some cheaper ones or what have you. What happens to the fixed costs on that pipelines that are presently covered in the rolled in price?

Mr. **Eck**. I think you are absolutely correct that this is sort of the market ordering problem we were referring to earlier. There will still be these inequities and there is a capacity for some pipelines to be immensely better off and others immensely worse off as a consequence.

It may be as I think you are inferring that the decision has been made to use up all that cheap low-priced gas first. Cheap low-priced gas moves out and higher priced gas just doesn't move. You are exactly right.

Mr. **Tauzin**. We are in the process of formulating a request to FERC to indeed give people a chance to see how this thing is going to work before they move very quickly on it and I like your suggestion. I think we are going to personally followup on it but perhaps we can get some others to join us in that regard.

From what we have learned right now, our State is going to make some serious objections to features of the proposal although the concept of opening up the market and getting competition in the pipeline system is certainly a good movement, the concern is that some of these features really could distort it and you have painted an even more dire picture when you talk about the dislocation of natural gas supplies being replaced by more oil imports when we already face a situation where projects are for 50-percent dependency by 1990 in oil and gas imports.

If you are correct, you mentioned six TCF, what is your estimate of the oil imports that would be required to make up the difference if in fact these regulations result in less gas production domestically?

Mr. **Eck**. We would estimate an additional million and a half barrels per day of oil imports would be required.

Mr. **Tauzin**. That is interesting news. Thank you, Mr. Eck.

Mr. **Sharp**. The gentleman's time has expired. I will be glad to come back to him if I could let my colleague from California ask some questions.

Mr. **Tauzin**. No problem, Mr. Chairman.

Mr. **Sharp**. The gentleman from California is recognized for 5 minutes.

Mr. **Dannemeyer**. I would like to give each of the members of the panel an opportunity to respond to this question or observation. Here in the 99th Congress we are seeing political forces again attempting to assert their dominance with respect to continuing a moratorium on offshore drilling that has now been in place for 4 years and now they want to extend it for a 5th year by attaching an amendment to an appropriations bill.

Not more than 2 or 3 weeks ago this committee considered legislation that put the ax essentially to synthetic fuel production in America by significantly reducing the allocation of funds available for that purpose.

Now some members of the panel have suggested that FERC's proposal may have a negative effect on production of natural gas here in this country and some of us are concerned that the interest of security of America is advanced to the extent that we expand the availability of energy supplies rather than detract from their production.

So I guess my question is what is your opinions with respect to one, is it a sound policy option today for the Congress to deregulate natural gas still remaining under price controls? Will in your opinion that increase production of energy, natural gas for this country?

Second, do you have an opinion about whether or not as a policy option we should be continuing to expand drilling and exploration in the Outer Continental Shelf?

Perhaps we can start at this end, Ms. Brossard, if you would care to comment.

Ms. **Brossard**. I will defer to my colleagues here. Being from the State of Louisiana, I do have a very strong opinion on your question, but representing Petroleos de Venezuela today, I think I will defer. Thank you.

Mr. **Dannemeyer**. Thank you. Mr. Eck, would you care to respond to those questions?

Mr. **Eck**. Yes, sir. Thank you. This is one of my several disappointments with the proposed rulemaking is that it forever condemns "104" gas, old gas, to regulation. I had hoped that there would be some way that we could have a pricing system that would permit us to avoid abandonment of old gas fields, to encourage infield drilling, to encourage workovers, to do something that would prolong the economic life of these resources.

It just seems to me that it is unwise to the point of being extremely serious public policy to not look at the deregulation, partial or complete deregulation, of old gas prices because of the supply effects that are derivative.

As far as the OCS is concerned, you are absolutely right. If we are going to find big additional reserves of oil and gas in the lower 48, it is going to be offshore. I think everybody pretty well agrees with that and if we are not going to drill offshore, we are sure not going to find it. So it is just axiomatic that we continue to make these completely unexplored in many cases areas available for exploration.

Mr. **Verleger**. I guess I concur with Mr. Eck with one caveat on deregulation of natural gas. I think we should have eliminated regulation years ago. President Carter probably missed a great opportunity in 1977. In eliminating regulation of natural gas, one probably has to permit a fairly over a fairly short period of time everybody to back out of the contracts that have been entered into over the last 10 years under the expectation that there would be continued regulation that would continue on forever.

You have to do it on both sides and start over. I am not sure that if the market were completely deregulated and recontracting was permitted that the producers would necessarily like the result that they got. I think that given what we are seeing on the oil market, they would find that prices are lower.

But if you deregulate the 50-cent and the 75-cent gas, you probably ought to allow pipelines out of the high cost gas contracts, too. It is a big problem.

In terms of OCS, it is deplorable we haven't been exploring. I was a supporter of Senator Wilson's campaign and I am a Californian by birth. I know there is expected to be substantial reserves down south of Los Angeles and it has been a great disappointment that those areas haven't been opened up for exploration.

I think the industry has learned a great deal in terms of offshore production since the Union Oil blowout in Santa Barbara in 1969 and that we need to proceed rapidly particularly in the period of time when the industry has the funds to proceed to go ahead with the exploration. We ought to know what is there. If it is available in terms of the security point of view for less than oil from the

Middle East, we ought to one way or another have it brought into production.

Mr. **Dannemeyer**. Dr. Ross.

Mr. Ross. I would simply concur with the other panel members. Obviously to the extent we move toward increased efficiency and competition that everyone is going to be better off, and clearly domestic production has shown a remarkable positive move in the last few years, but I think days are running out that domestic U.S. production is going to start declining in the next few years.

I think that is pretty much inevitable so we should do everything we can to promote that production. I think you have to keep in mind though that with every time you see a market weakness it provides sort of the seeds for reversal. I think you can't lose sight of the fact that this is a very cyclical industry and long term investment, capital intensive.

Clearly, with the economics we see today people are going to be reluctant to put that money down and directionally, there is going to be a supply side correction and that could happen at some later point.

So, therefore, everything we can do to promote efficiency and promote further exploration and production in the United States clearly is a positive factor.

Mr. **Dannemeyer**. I would just like to make the observation to Mr. Verleger, have you communicated these views to Pete Wilson, my Senator?

Mr. **Verleger**. Since I live in Washington, DC, no, I have not but a family member has out in California.

Mr. **Dannemeyer**. Let's hope it will have some impact in terms of changing that gentleman's direction on the issue of OCS. I commend you for your observation.

Mr. **Verleger**. Thank you.

Mr. **Dannemeyer**. Thank you, Mr. Chairman.

Mr. **Sharp**. Thank you. The Chair recognizes himself for 5 minutes and then we will go back to my other colleagues.

Dr. Ross, I wanted to go back to what you were saying. You were obviously advocating just getting the maximum efficiencies—as I understood your recent remarks here—out of the current market, but would you have us then not engage in interventionism? And I am taking about whether it is quotas or taxation or any of the other techniques that are used to try to keep an industry going?

I realize that we have already tampered, and we have already built in some inefficiencies.

Mr. Ross. I think we first have to clearly identify the national interest. For example, in the case of product imports, what is really at risk. What do we need? Do we need protection? Why? In case of emergency, what type of product requirements would this country have? Let's define what they are and then we can determine whether or not we need them?

Clearly, there are national security and national interest issues which come above the market but they have to be clearly defined and justified.

Mr. **Sharp**. The difficulty I have on any number of occasions, is that claims are made that national security and national interest requires certain governmental action; only later, we find out that the world didn't work quite the way we had anticipated that it might.

I don't feel any difficulty admitting that inconsistency, since we rarely had anybody that has been able to come before this committee over a 10-year period and maintain a strict position of consistency.

The thing that strikes me is the whole issue of just whether we ought to be concerned about imports. Mr. Eck, you mentioned the horrendous increase in natural gas imports, and it used to be that all of us quaked in horror every time we heard that word, because that was the signal as to our national security being in danger.

David Stockman obviously fundamentally disagreed with that position and I only pick him out of the air as somebody who is a currently known commodity—arguing that the strategic petroleum reserve was what you have for the temporary jolt you may get in various kinds of crises, and that basically all that matters is letting the market operate, and that diversification and other things in the international market will overcome that problem.

It is the same question really we are going back to, and maybe I should let Mr. Verleger and Mr. Eck also respond as to whether we ought to just correct inefficiencies or whether we have to be taking additional steps now when you see this so-called tightening of the market to come or the rise in imports which is allegedly coming.

Mr. **Verleger**. I will go first. I think there are two questions. First, one of the major arguments for intervention in the 1970's was to offset the effect of exercise of monopoly power. Really when you look at the world capacity at the time it is hard to find the monopoly power.

When OPEC was producing at full capacity, prices should have gone up and they did. By the same token, it may be that the cartel will be able to reassert itself sometime in the future. It certainly has some power today, a good deal of power and one might want to use fees or taxes to offset it.

It is hard to justify imposing fees on part of what is coming in like products and not on crude oil. Oil is oil essentially.

The second question you raised though is really the security question and as you know a number of academics have suggested that there is a security premium, that the importation of oil at spot prices means that essentially the consumer does not pay the full cost of oil and that some form of fee ought to be imposed so that the consumer pays the true social cost.

I think the economic research on that area is pretty compelling, that there ought to be a fee. The problem is as with most economic research, you can get a very wide variety of estimates anywhere from 50 cents per barrel to $10 per barrel depending on your assumptions.

I think there still should be substantial concerns by the committee and by the Congress and by the American people that the cost of imports does not really reflect the security premium and that some action should be taken including continuing to fill the strategic petroleum reserve, building the units.

I don't think we need the refineries because if oil imports are cut off or production is cut back, there is a disruption and there will be almost by definition a substantial surplus of refining capacity someplace in the world and swaps can be done.

This is a business that began as a trading business and continues as a trading business today and the oil can be moved around very easily.

Mr. **Dannemeyer**. Will the gentleman yield?

Mr. **Sharp**. Yes.

Mr. **Dannemeyer**. Did I hear correctly that you are talking in favor of an import tax on foreign oil?

Mr. **Verleger**. No. What I said was that one can make an argument for a tax on importation of crude oil and products for strictly security reasons, that the economic research has shown that the price of imported oil contains in it a price not paid by the consumer. This is a social cost related to the risk of potential disruptions and the potential rise of price.

Mr. **Dannemeyer**. On that point then, isn't it true that if we put a dollar import tax on foreign oil the next day domestic producers would add the dollar on to their price, wouldn't they?

Mr. **Verleger**. Of course. The market follows but that supply is secure and we have a little nefarious device called the Windfall Profits Act which means that roughly 65 to 70 cents of that dollar would flow right back into Uncle Sam's pocket.

Domestic oil and domestic production—the problem when one talks about the import fee from a security point of view, one is talking about the risk of a disruption, the risk of the loss to the economy. GNP, jobs, inflation of a sudden disruption, either politically motivated or an accident or an act of war, essentially domestic production is more valuable socially to the country because it is here and it is in the United States.

This was an argument that dates back to 1958, when the mandatory oil import was imposed.

Mr. **Dannemeyer**. Thank you, Mr. Chairman.

Mr. **Sharp**. I would also like to let Mr. Eck respond to that.

Mr. **Eck**. Let me not address the issue of strategic security and talk about economic security. I think it is true, and most economists would agree, that the more oil that OPEC exports the greater their opportunity is to increase prices. The higher the ratio is to total world exports the more powerful they are going to be.

So if we take actions that increase the total barrels of dependency we may pay twice. We will pay not only for the additional million and a half or 2 million barrels per day, but we may pay $2 more for all oil imports or all energy costs may go up by this amount.

Incidentally, a mutual colleague of ours Prof. James Sweeney has done work on this, Dr. Sweeney at Stanford, and has concluded that a million and a half barrels per day increase in our imports would raise the world price of oil $2. He is right. That is $2 times the entire amount of imports.

We can have ill-advised tax policies. We can shut down the OCS or we can have bad rules coming out of regulatory agencies but they will all work to raise the world oil price.

Mr. **Sharp**. If we went to a more efficient marketplace and we have generally been heading in that direction, I think it is fair to say, over the last several years and if we have not gotten there yet

I understand, but if we are generally there, is there any reason for us to go beyond that? That is the real question. Are the imported barrels really worse? I used to believe so. I don't have any problem with that. The question I am asking myself and everybody else is, well, temporarily you can have a big deal but if you wait long enough, the cycle will come up with you again and it will straighten itself out; and there would be some pain involved; but there won't be as many mistakes as we'll have throwing on quotas and import fees and other kinds of things.

Mr. **Eck**. Looking at the record we were importing 50 percent of our oil and it actually got up to 55 or something like that and then we got down to nearly 30 and what we are saying is that we think there is a good chance we are going to get back up to 50 or 60 and so on. So we are exposing ourselves to the same risks and the same dangers and the same economic penalties that accompanied those earlier high levels of dependency.

Mr. **Sharp**. I will let my colleague get in here and then I have some more questions.

Mr. **Tauzin**. This has been really good. I have enjoyed it. Mr. Eck, what you have said in effect is either you pay for it now or you pay for it later and that has been the history of foreign oil dependency. We maybe paid a cheaper price for imported oil when we were building up to that 50 percent figure but as it built up, the prices went up dramatically and we paid for it later.

We are building that same kind of case right now and there is a question of whether or not that is good for us not only in terms of economics but indeed in terms of strategic concerns about the Nation's ability to have an independent foreign policy, et cetera.

I want to go over to Dr. Brossard in that regard because when we look back at the oil embargo that not only causes great pain in terms of dollars at the gas station, et cetera, but causes great disruption and great inconvenience as Americans in terms of being able to get supplies of gas and oil products at that time, there is a common perception that all of the members of OPEC were part of that embargo.

Dr. Brossard, you represent the industry in Venezuela here today and I want to welcome you first of all as a fellow member of that great State of Louisiana and from my alma mater and also a dear friend, but to ask you to clarify that for the record for us because I know it came up once before and it is still a bit confusing.

What was the role of Venezuela and its oil policy in terms of the oil embargo and that terrible period of time in our Nation's history?

Ms. **Brossard**. They actually increased their oil production in order to help out the United States in that very difficult period. There were two countries at that point that were very large exporters of oil to the United States. One was Venezuela and the other was Canada and neither one of them have really gotten credit for having helped out in the hemisphere in this difficult time.

As I did mention in my opening statement, the Congress did not realize that Venezuela was not a member of the Arab Organization of Petroleum Exporting Countries and therefore their preferential trade status in 1974, when they removed it for all members of OPEC, and didn't restore it until 1980.

I would like to add something here in regard to some of the things that have been said, just to digress for a minute, but really it is very pertinent. One of the great basic differences between this country and all other countries is that the United States owns—its citizens own private mineral rights.

That is why in all of these discussions which we have on oil policy and imports, I often find something is missing, that is, we don't take into account the oil producer in this country who does own private mineral rights He has an interest that is quite different from the producing countries where the State owns the mineral rights.

Therefore, our producers have to be extremely concerned about imports from other countries. It is their pocketbook that we are talking about, and by the same token, a drop in the price of oil, which we all seem to be looking at as just marvelous, does affect our producers, too.

It isn't just a concern to OPEC. It is certainly a concern to our own domestic production and our own oil producers. Every drop of the price of oil, and apparently the Mexicans just dropped it $1.50 during the night, will affect us, also.

That cannot be overlooked.

Mr. **Tauzin**. Dr. Brossard, I expect the arguments for some sort of import fee to actually increase in intensity over the next few years particularly if prices drop some more, particularly if the deficit continues to loom as large as it does and that new taxes become an option, whether they be domestic taxes or import fees or some other fees and particularly as that dependency grows again and people begin to get more worried about the economic and strategic national security concerns about that dependency.

How would a quota or a tariff or fee on oil imports indeed affect Venezuela?

Ms. **Brossard**. Since they are one of our major exporters both of product and of crude, it would severely affect Venezuela. They have traditionally been our major source of oil and we are their major export destination. As a result, any type of new quotas or fees that we might envision in order to help our own deficit would severely impact upon Venezuela.

Just as in 1959 when the mandatory Oil Import Program was instituted, it severely affected the country and its economy and they started, of course, to try to defend themselves, their own national security was under seige. They did it in a number of different ways. Pro-Venezuela was one of the movements to buy Venezuelan products instead of to import because half of their products, then as now, still come from the United States.

The other thing that they did was to organize a group of other producing States in order to protect the price of oil which was dropping. The Organization of Petroleum Exporting Countries was not organized to raise the price of oil as we have it in our minds now in this country since 1973. It was to protect the price from dropping further which is, of course, in our interest too in this country. We don't want to see that price drop further, and certainly not in the State of Louisiana or the States of Texas, Oklahoma, and California.

Mr. **Tauzin**. You have some other guys who would like to see it fall off the floor.

Mr. Verleger, you made a comment that absolutely intrigued me and that is that when you talked about the consumption volatility figures, that is an amazing statistic. We have gone from 400 million to 1.2 billion?

Mr. **Verleger**. No. It was 400 million barrels a day.

Mr. **Tauzin**. Let me get this.

Mr. **Verleger**. Variance is a statistical measure.

Mr. **Tauzin**. To 1.2 million?

Mr. **Verleger**. To 1.2 million barrels per day.

Mr. **Tauzin**. That is an enormous change.

Mr. **Verleger**. Yes.

Mr. **Tauzin**. What is the reason for that?

Mr. **Verleger**. Several things. A second element in this is that the consumption was highly correlated with a trend. Between 1960 and 1973, oil consumption in the United States and worldwide increased at almost a constant rate.

What has happened is that it has become much more price responsive and substitution.

In 1985 we were supposed to have consumption of 70 million barrels per day of oil. It is going to be 45.5 to 46. That is 24 million barrels per day shortfall. The quick answer everybody comes up with is we had a recession. In fact, the recession explains only 4 million barrels per day of the loss in consumption in that forecast.

Had GNP growth been as predicted, the consumption would have been not 46 million per day but maybe 50 million per day. The other 20 million barrels per day is divided between fuel substitution and fuel conservation and that really gets to why that trend broke down.

Mr. **Tauzin**. Where is the fuel substitution occurring?

Mr. **Verleger**. Looking across the OECD, coal has replaced oil in powerplants, nuclear power replaced oil in powerplants. If you look at France, they have a very active nuclear powerplant program that has backed out of a lot of oil, nuclear power in Japan and nuclear power even in the United States.

The story on the front page of the paper describes the troubles. The story on the back page of the paper is that we have a lot of plants that are now coming up and starting up like Diablo Canyon in California.

The other contribution to substitution was natural gas. In 1977 we had a gas shortage. We had that cold winter in 1977. You remember it in Louisiana. Today gas is pushing back into the industrial market. Then it was being pushed out. Gas companies are aggressively marketing incremental gas supplies and that is replacing residual fuel oil.

So what has happened is that gas has replaced oil, coal has replaced oil, nuclear has replaced oil and one of the things in that trend was that really oil was the fuel of first choice until 1972 and now it is the fuel of last choice because it is so expensive and the price is so uncertain.

Conservation, we know, is just better cars and better houses and things like that.

Mr. TAUZIN. That is interesting because we have heard the opposite in terms of the natural gas markets. We have heard that oil came in and replaced gas particularly during the period when all the deep well gas was coming on the marketplace and the Fuel Use Act and incremental pricing in place, that industrial consumption of gas declined and everybody was switching over to No. 6.

Are you telling us that gas is now replacing that oil?

Mr. VERLEGER. If you look at the energy statistics today for the United States or for the Western World particularly the United States, oil consumption this year is down 3 percent over last year. In fact, last year GNP grew about 6 percent and oil consumption went down 2 percent.

There is still a recession in oil. The largest loser is residual fuel oil. Residual fuel oil use is down 32 percent this year.

Mr. TAUZIN. Do you have the figures on how much of the oil import is in product?

Mr. VERLEGER. Less than a third. I haven't looked recently but it is less than a third.

Mr. TAUZIN. We have heard increasing concern about the loss of refining capacity in America and the loss of ready supply of refined product capability in America and a greater and larger dependence upon foreign refined products with trend lines indicating that that would continue as the total dependency built.

If I can paint the final picture, so when we got to 50 percent as we did prior to the Arab oil embargo, that a much greater percentage of that dependency would be in refined product and that a similar embargoed situation were to cover refined products would place us in a much more dangerous position than the last embargo did because we at least were able to buy crude from Venezuela and refine it in this country.

Does that parallel your assessment or do you have a different one?

Mr. VERLEGER. I guess I have a different assessment. As long as there is adequate refinery capacity in the world, I can't get too concerned.

I think that there is something else going on right now and you are probably hearing from your constituents. They hear about low crude oil prices and they write you and say that the gasoline price at the pump has gone up.

Mr. TAUZIN. Yes.

Mr. VERLEGER. The answer is that EPA promulgated a lead phase-down program which leaves us short of octane producing capacity. There is an article in the June 4 Oil & Gas Journal by Bruce Smith at Pervin & Gertz that shows essentially for the next 3 years we are short 2 or 3 billion, I think it is billion, gallons of octane.

Mr. TAUZIN. Which is why you see ethanol plants come up.

Mr. VERLEGER. Why you see ethanol plants and why you see gasoline imports. We need the gasoline. We don't have the reforming capacity.

The other thing that you hear is that when Congress passed the windfall profits tax and created the incentive for ethanol, the exemption from Federal gasoline taxes, you imposed a tariff on imports of ethanol and then when the Caribbean Basin Initiative was passed, there was a failure to go through and correlate it with the other legislation so ethanol imports from the Caribbean Basin are exempted from that and some Brazilian ethanol is coming up.

There is a question of congressional intent. The ITC has written a finding. I think it is the Gibbons legislation here on the floor.

Mr. **Tauzin**. Yes.

Mr. **Verleger**. Basically, you come back, yes, I have heard the arguments by Ashland and others in the Independent Refiners Coalition and the profits that they are going to report in a couple of weeks for the second quarter are going to be very large because of the lead phase-down program and in fact, if Congress were to do something you could create right now a shortage of gasoline particularly in some areas.

Mr. **Tauzin**. I wonder, Mr. Eck, do you have an opinion on that?

Mr. **Eck**. Thank you. Yes. Our concern about the import situation with particular reference to no-lead gasoline, first of all it is not clear that there is all that much no-lead gasoline out there overseas to import. But let's just say we did pull it from Europe and became dependent on Europe for supplies of unleaded gasoline.

It is my judgment that Europe is not that far behind us in going to unleaded gasoline and indeed, Germany is already moving in that direction. The French are starting to make it available and so on and you can really question if we get hooked on European unleaded gasoline and then they decide hey, we are going to take lead out of our blends, how are we really going to satisfy our requirement.

A related situation arises from the problem of Saudi and other Persian Gulf product exports. There is no question that we have these giant export refineries coming on stream and they are going to export. There is no doubt about it. They will export.

I think it is a real serious issue of the level playing field here, that the Japanese said that we are not going to take any of this stuff. In fact, they have a rule, they just don't import any refined products at all.

Europeans make it very difficult for large volumes of refined products to come in so the fear is that the only big easy target of opportunity in the world is the United States. It is not just oil.

It is unfortunately a lot of other products, too. But I am just worried about how does American business including the petroleum business compete in a world where we let all foreign products in but they don't play fair and let our products in their market.

Mr. **Tauzin**. Particularly as Dr. Brossard said where the governments are in control of the operations and they are competing against indeed free marketers in this country. There is a question of that fair playing field.

Dr. Brossard, you had a comment?

Ms. **Brossard**. Yes. I very much would like to comment on this. I have been working for the last 2 months on a white paper on this very subject and have been looking into these vast new potential supplies of product imports, particularly gasoline, and I quite frankly can't find them out there.

I have studied the building of those refineries, the upgrading of the capacity, and it isn't there. There may be some products for export obviously coming from Saudi Arabia but from these other countries that have been exporting to this country, I don't see it rising any more than it has in the past year or so.

As a matter of fact, in answer to one of your previous questions as to how much has our own imports of products increased, they haven't. They have dropped. In 1973 our imports of products were 3 million barrels. They now stand around 1.5 million barrels.

Mr. TAUZIN. Before we get confused in there, 1977 was a high year for total imports.

Ms. BROSSARD. Yes; because that was just as the Alaskan pipeline was started up.

Mr. TAUZIN. So what I am asking is in terms of percentage of mix of imports.

Ms. BROSSARD. It has not grown. What has really changed is the type of import that is coming in now. When we were importing the 3 million, we were importing about 1.5 million of resid and, of course, as we have discussed here before, it is the decline in the use of resid in this country, residual oil, that has declined, our own use, and therefore our own demand.

Furthermore, refineries in this country were built to refine the lighter products and not resid. That is what we imported from Venezuela and this, of course, has been one of the things that has changed.

As far as the import of gasoline, I don't see that rising very much. It may rise some from the Yanbu refinery, but the Jubail refinery which is the other exporting refinery in Saudi Arabia is now going through shake out, and that refinery is to export mostly middle distillates, which have already been marketed for the Far East, not for export to this country.

So really, it is the Yanbu refinery which may be a problem in future imports.

Mr. SHARP. If the gentleman will yield, to back up the lady's statement, this weekly petroleum status report from the EIA suggests that there has been a 34-percent drop in gross product imports in the first 6 months practically of this year compared to last year. That may be a temporary phenomenon. I don't know.

Mr. Eck, did you want to comment on that?

Mr. ECK. Yes. I want to reinforce the statement that that is resid and actually light product imports have come up and resid has come down. I guess we could say resid imports are a different issue than the light product imports.

Ms. BROSSARD. But one of the reasons that this occurred last year when the gasoline imports came into this country in larger volumes was, of course, the coal strike in Great Britain. That disrupted the whole refining capacity economics in Europe. They had to supply, certainly during the winter months, over half a million extra barrels of residual fuel oil to the British needs because they didn't have the coal.

When they had to gear up another million barrels to produce the half a million barrels of resid, they had excess gasoline which then came into this market. Much of that supply last year that looked like it was flowing in wasn't coming from the Middle East. They couldn't send it then because they didn't have the refining capacity. It was actually coming from Europe.

Mr. **Verleger**. I would like to just add one point and reiterate what Mr. Eck said about a level playing field. There is some good news. Monday, the Japanese, at the IEA meetings, agreed to take products from the Middle East and said that they would take something like 50,000 metric tons per year which is one-seventh or maybe one-sixth of the products coming in. This is the first real break we have had in terms of the Japanese trade policy. Now, if they will take some semiconductors from the States, we would be better off.

It is important to think in terms of this level playing field, but one statement that is often made is that these countries will dump petroleum products into the spot market at lower prices than they are selling crude oil, so that you can buy products cheaper from Saudi Arabia than perhaps one can buy crude oil.

One of the economic relationships that seem to hold for the last 10 years is that the value of crude oil and the price of products move together. Thus, if the Middle Eastern refiners were to start selling Arab light in the form of gasoline and other products at $20 per barrel, within a day or two the price of Arab light on the spot market as crude oil would be at $20 per barrel. They understand that just about as well as everybody else does.

So they don't have that power to really undercut our companies.

Mr. Ross. Let me make just one quick point and that is that it is very important what the Japanese decide on the product import issue. It is not clear from my reading of what came out of the IEA meeting in Paris at all that the Japanese are going to take their fair share of the product exports coming out of the Middle East and elsewhere.

In fact, I am unaware of any volumetric number that the Japanese have given and I think one has to watch that very, very closely or else the United States market could very possibly be a dumping ground.

I think also one has to define what is a minimum level of refining capacity that this country requires for whatever reasons it needs it, national security reasons. What is the minimum level and I have never seen any paper done on it, that the Defense Department has outlined under these conditions. This is what we need and where are we going to get it from.

We need that defined and then we can determine given the SPR, given existing refining capacity what should be done.

Mr. **Sharp**. Ladies and gentlemen, I appreciate your attention through the lunch hour to what is obviously a very significant question to which we really don't have any answers. There is not just one question, of course. I appreciate very much your cooperation with us and we would probably enjoy going on a little longer but we have another vote on the House floor and I think this is an appropriate time to call an end to this.

We will be having hearings on some of these issues as well as natural gas, which never leaves us so I have no doubt that we will be back on that. Thank you very much for being with us.

[Whereupon, at 1:35 p.m., the subcommittee adjourned, to reconvene at the call of the Chair.]

[The following statement was submitted for the record:]

Statement of
Dr. Elihu Bergman
Executive Director

AMERICANS FOR ENERGY INDEPENDENCE
Washington, DC

Mr. Chairman and Members of the Committee:

It is more than eleven years since energy was catapulted into the world's consciousness by the threat -- not reality -- of an oil producers' embargo. For the modern industrial nations who are the world's major oil consumers the aftermath brought some panic, great anguish, and considerable economic and political distress. For the producing nations there were brief moments in the sun of economic power, irresistable temptations to push their sudden economic good fortune, with a resulting mixture of opportunities and disappointments, and for some, disasters. For the economists and bankers, there was a landscape littered with mistaken forecasts and wrong guesses. Their projections of oil at $50 a barrel in 1984 are a painful legacy. For everybody, the shocks of 1973-74 and shockwaves of 1979-80 shattered our energy innocence and indifference.

Now in the Spring of 1985, as the oil exporting and importing nations face each other in the economic version of a football game halftime, we are all somewhat the wiser. The question is how well we will be able to use the experience of the past 11 years to our respective advantage, exporter or importer. Will the second half be as shattering as the first half? Who, if anybody, will win when it is all over. Or are there any winners in this encounter?

Developments in the world oil market over the next 11 years will be the major determinants of winners and losers, if there are to be any. And the oil requirements of the modern industrial countries who consume about 75% of the world's oil will continue to be the major factor in the world oil market. Their skill and will in managing their energy systems will be the principal determinant of oil demand and prices. At the same time, the requirements of the Communist and Less Developed Countries will play an increasingly important role in the market. Meanwhile, the only certainty is that in 1995 the world oil scene will look different than in 1985.

Early 1985 marks a plateau in the world oil market, with the industrial importing nations enjoying a spell of good fortune, the less developed importing nations enjoying a critical reprieve from economic disaster, and the oil exporting nations both in and out of OPEC at a disadvantage.

After surging from a post World War II takeoff point of 10 million barrels a day (MBD) in 1950 to a historic peak of 62 MBD in 1979, an increase of 520%, world oil demand turned around and declined to 53 MBD in 1983. During 1984 demand started creeping up again, but by a factor less than 1%. The cold winter in Western Europe and the United States in early 1985, and the maintenance of robust economic activity in the U.S., had negligible impact on oil demand. In February 1985 U.S. demand was up only 0.2% over the same four weeks in 1984. Nowhere in the modern industrial countries are there signs of a significant turnaround; it is still a buyer's market.

The most recent acknowledgment of the buyer's advantage was the decision of the British government to eliminate the market role of the British National Oil Corporation (BNOC) which cost the British Treasury $76 million for the past 8 months, and an estimated $11-22 million for March alone. Until the government acted earlier this month, BNOC took 51% of U.K. production for resale at an established OPEC price. Clearly there have been no buyers at this price for some time, so BNOC was forced into the dominant open market to sell the oil at a loss, and the government picked up the difference. Beyond the cost to a fragile British economy, the arrangement had become a serious political liability to the Thatcher Government, which is committed to "privatizing" the economy.

It remains to be seen how the British action affects OPEC, and most immediately Nigeria, who is the weakest link in the OPEC chain, and whose oil competes directly with the British. The British action has removed the last external, and some would say critical, prop to the official OPEC pricing structure. But whatever the response to Britain, OPEC as a cohesive institution has lapsed into irrelevance, for the time-being. By 1983, OPEC production was down by nearly 50% from its 1979 peak. During 1984 and into 1985, demand for OPEC production has not increased; in February it hovered around 16.3 MBD, which conforms to the overall OPEC production ceiling of 16 MBD. OPEC in fact is functioning as the supplier of last resort.

But the current OPEC production ceiling of 16 MBD distributed among individual members is not adequate to meet their individual oil revenue requirements. Collectively the members of OPEC need to sell approximately 22 MBD to maintain an adequate cash flow for their individual economies. The individual revenue needs, and their intensity, differ among the members, and it is this diversity in a period of a surplus or glutted market that has exposed the internal contradictions and conflicts within OPEC. So long as the world needed more oil from OPEC than OPEC needed to sell (the 1973-81 period) the built-in conflict was irrelevant, and OPEC could present the image of unity, cohesion, and strength. But when the market turned after 1981 to a condition where the world needed less OPEC oil than OPEC needed to sell, the papered-over clashes surfaced, and OPEC entered the period of internal upheaval in which it now exists, and which is vividly exposed to public view every time OPEC meets.

The clash built into OPEC reflects the sharply divergent financial requirements and assessments of economic advantage that separate the low population "cash rich" members from the high population "cash poor" members. It is essentially a conflict of interest between Saudi Arabia, Kuwait, and the United Arab Emirates against all the rest.

On the basis of numbers alone, low population countries enjoy the balance of power within OPEC. With 3.8% of OPEC's population, they control 60% of OPEC's proven reserves, and 40% of total world reserves. Exempt from population pressure, and with an enormous oil reserve in the ground, these countries can afford to take a long view, which involves limited and discretionary oil production. Their discretionary position provides them a weapon to enforce discipline within OPEC, simply by temporarily raising production and flooding the market. But the effectiveness of this weapon is limited by the condition of the world market, and the limitation is visible today in a highly competitive buyer's market in which temporary "flooding" by Saudi Arabia would only intensify the competition; not discipline delinquent OPEC members.

Though exempt from the population pressures and desperate financial requirements, the discretionary producers are afflicted with another set of pressures that limit their discretion and influence. All have conducted major economic development programs financed by the enormous capital influx of the 70's, which in turn have created expectations among their populations. These expectations are not suddenly turned off, particularly among populations that are subject to unrest and instability created by the increasing presence and influence of Islamic fundamentalism in the area.

Thus the discretionary producers -- notably Saudi Arabia -- must maintain a level of expenditure that is both responsive to the expectations and to budgetary realities. For the Saudis, these factors impose a lower limit on their discretionary oil production -- they need to produce about 4 MBD to meet their requirements -- and the need for deficit financing, something they have never done before. At their 1981 peak, Saudi oil revenues were $102 billion; government expenditures that year were $81 billion; and savings or cash reserves amounted to $100 billion. By 1984, Saudi oil revenues were down by nearly 60% to $42 billion, while expenditures could be cut only by 22% to $63 million. By self-imposed legislation, the Saudi regime does not permit deficit financing. Still in 1984, there was an estimated $10 billion drawdown in Saudi reserves. At that rate of deficit financing, and with a continuation of the prevailing world oil market, even the enormous Saudi reserves could be wiped out.

To restore an influential role in the world oil market, not only do the OPEC countries have to accomodate their own diversities and built-in clashes, but they need to accomodate to the increasingly important position of non-OPEC producers in the marketplace, and the preferences for them as sources of supply by the importing countries. Since the 1979 peak, the pattern of world oil production, and the distribution of suppliers, has shifted dramatically. By 1983, OPEC production was down by 44%, and in 1984 another 5.8%, for a total decline of nearly 50%.

During the same 1979-83 interval total non-OPEC production increased by 12.6% with another rise of 1.4% in 1984, for a total of 14%, or 4.5 MBD of new production added to a soft market. But within the non-OPEC grouping, their were dramatic production increases in Mexico -- 80%; Norway -- 75%; and the U.K. -- 56%. The world's largest producer, the Soviet Union, increased production by 8.8%, and emerged as a very aggressive competitor for the declining Western European market as it raised exports to the West by 50%.

As the new sources of supply became available, they provided a broader range of choices for the importing countries, and created some notable shifts in import patterns. Most important was the change in U.S. import sources. In 1979, the top three foreign suppliers to the U.S. were Saudi Arabia; Libya; and Nigeria. By 1984, they were replaced by Mexico; Canada; and the U.K.

Looking at 1985, the consensus among those still courageous enough to make projections is that the world oil market will resemble 1984, with abundant supplies and flat to declining prices. There is a respectable number of U.S. forecasters in the government, on Wall Street, and in the think tanks, who see oil at $25 a barrel by the fall of 1985. A few see it even lower. And though they are cautious about expressing themselves about the more distant future, there are those who venture that this condition might persist into 1986 and beyond.

This short term outlook is based largely on the consumption patterns of the non-Communist industrial countries that have developed since the two price shocks of the 70's. These patterns involve a significant decline in oil use in the energy systems of countries that collectively use 60% of the world oil supply. (This U.S. alone, as the world's largest user, consumes 25%.) Major permanent reductions in oil consumption were achieved by a combination of efficiencies and conservation in energy usage and by substituting alternatives for oil.

Between 1973-83, the OECD countries as a group reduced oil consumption by nearly 20%. During that period the U.S. alone was down by 14%; and in the 1979-83 interval after the second oil price shock, U.S. consumption declined by nearly 20%. Other OECD members achieved even steeper reductions in the 1973-83 period: Canada was down by 29%; Germany 27%; France (a non-OECD member) 28%; and the U.K. 35%. While the reduced economic activity created by recession was a major factor in the 1979-83 declines, the changing energy consumption patterns continued to be influential.

The role of the efficiency/conservation factor in creating these declines is illustrated by the U.S. experience. Between 1973-83 the average fuel efficiency (mileage achieved per gallon of gasoline) of passenger automobiles in the U.S. rose by 25%. During the same period, the U.S. economy was increasing in productivity per unit of energy input by a factor of 22%.

The substitution of alternative resources for oil was accelerated during 1973-83. Electricity generation, which increased in most of the countries, provides a vivid example of the substitution process. Nuclear energy and coal were employed as the major alternatives, with nuclear production in the U.S. up by 250%; in Japan 400%; Canada 100%; Germany 100%; and France 500%. Coal consumption in the U.S. increased by 50% and in Canada by 67%.

As the result of nuclear and coal substitutes, the U.S. was able reduce oil consumption for electricity by 50%, from a peak of 1.4 MBD in 1979, to less than 0.7 MBD in 1984. Other countries, notably France and Japan, achieved comparable reductions.

Though natural gas use declined in the U.S. in the 1973-83 period, it became an increasingly important factor in the Western European and Japanese energy systems. Gas consumption increased in Japan by 400%; Germany 33%; France 33%; Italy 67%; and the U.K. 80%. The Western European shift to greater natural gas usage was a result of the expanded production nearby in the Netherlands and North Sea, plus the availability of Algerian natural gas. In addition, in the early 80's the Soviet Union entered the Western European market with its expanded Siberian production.

Beyond 1990 the world oil outlook could change substantially, with the present good fortune of the major oil consuming countries reverting to an advantage for the oil producing countries -- a replay of the 70's -- with a resumption of the upward spiral in oil prices. A cross section of some recent projections ventured in the United States suggest what could happen:

An increase in U.S. energy consumption, including oil, driven by annual increases in GNP.

A 17-30% decrease in U.S. oil production created by reduced exploration in the 80's, and the absence of significant discoveries.

A related requirement to increase oil imports by about 66% above their current level -- from 4.5 to 7.5 MBD -- by the year 2000.

As the result of U.S. import needs added to requirements elsewhere in the world, OPEC production up to 29 MBD -- an increase of 81% -- by the year 2000.

The other major oil consuming nations, experiencing rates of economic growth comparable to the U.S., could be expected to add to world oil demand in the 90's. If they experience comparable rates of growth in oil demand, the OECD countries would account for another 1-1.5 MBD.

Even with more diversified energy systems, the developed countries in healthy economic conditions will be a factor in increasing world oil demand in the 90's. But the more significant pressures in restoring higher levels of demand could originate in the Communist and Less Developed Countries.

While oil consumption declined by 20% in the OECD countries during the 1973-83 interval, it grew substantially in the Less Developed and Communist countries. In the same period oil demand in the Less Developed world increased by 46%. Demand in the oil producing LDCs -- OPEC members -- grew by 106%.

The Communist countries experienced similar growth, with a rise of 53% between 1973-83. Among them China alone increased oil consumption by 57%.

Together, the LDCs and China comprise 75% of the world's population, and still growing at rapid rates. As of 1983 they accounted for 23% of the world's oil consumption.

Though rates declined in the 1979-83 period, with the exception of China actual consumption continued to grow in the Communist and Less Developed countries. With the combination of pressures -- population, political, and economic -- for higher energy usage in all these countries, it would be realistic to project continuing increase in their requirements into the 90's. Even projecting 1983-93 growth at half the 1973-83 rates, these countries could add another 6 MBD to world demand.

For the Less Developed countries, higher energy use is a key factor in economic and political survival. Though the progress toward economic development that many achieved during the 60's was curtailed and even reversed by the oil price shocks of the 70's, the growing populations and their expectations, and the related political imperatives for their regimes, will force a resumption of development. The process will require greater amounts of energy, and particularly oil, because the non-producing countries lack the alternative technologies and resources available to the developing countries. China reflects the outward potential of modernizing LDC energy requirements: In 1983 with 22% of the world's population, China consumed only 3% of the world's oil supply. One billion Chinese used 1.8 MBD. By contrast, the U.S. with 4.7% of global population consumed 25% of the oil supply -- 231 million Americans used 14.6 MBD. Even modest progress by China alone in closing the industrialization gap would impose substantial pressures on available oil supplies.

Beyond the potential of the non-producing LDCs, the producing countries are consuming more of their production at home to feed growing refining and petrochemical industries that were developed with the proceeds of the oil boom.

In the Soviet bloc, the economies continue to require higher levels of energy inputs to compensate for their built-in inefficiencies. Because the Soviets have progressed with substitution, and have pressured the COMECON countries to use less oil, Bloc consumption has leveled off, though Soviet consumption continues to grow. Still the Polish experience doubtlessly reminded the Soviets of the fragile line between economic distress and political unrest within the Bloc, and the limits to which they can push COMECON partners in a vital resource such as oil. Under the circumstances oil consumption within COMECON will likely continue to increase, though at lower rates.

In the absence of major new oil production outside the Middle East, and considering the prospective declines in U.S. and U.K. production during the 90's, it is clear that the potential OPEC suppliers of last resort will indeed become the suppliers of last resort.

There are some potentially significant additions to supplies in the 90's. Iraq and Iran have the capability to add another 6 million barrels to current production. Mexico and the Soviet Union could add unknown quantities. It is unlikely, though, that these additions, if they occur, would compensate for declines elsewhere, and offset the emerging increases in demand.

If all these projections about world oil needs materialize; if the marketplace alone becomes the arbiter of energy choices; and if public policy in the major importing nations does not deliberately create alternatives; it is probable that oil exporting countries will become suppliers on their own terms. And we in the industrial importing nations have been down that road before, to our economic distress.

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OIL OUTLOOK: PRICE, SUPPLY, MERGERS, IMPORTS, AND TAXES

MONDAY, JULY 15, 1985

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON FOSSIL AND SYNTHETIC FUELS,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:05 p.m., in room 2123, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. SHARP. The subcommittee will come to order. This afternoon we welcome the Secretary of Energy to the second hearing in our series of energy security.

We have asked him to testify on the subject of last week's hearing, the world energy future, as well as the topics of subsequent hearings in this series, imported petroleum products, energy tax policy and the impact of restructuring on exploration and production.

We expect to hear as well his insights on the recent OPEC meeting and the IEA ministers' meeting which he attended last week in Paris.

Mr. Secretary, we certainly welcome you and are delighted to have you with us this afternoon on this very warm afternoon. First, I need to recognize my colleagues for possible opening statements.

Does the gentleman from Ohio have an opening statement?

Mr. OXLEY. No, Mr. Chairman.

Mr. SHARP. The gentleman from Ohio does not have one. The gentleman from Oklahoma, I think, has an opening statement. Mr. Synar.

Mr. SYNAR. Thank you very much, Phil, and let me start this afternoon by wishing you a very happy birthday. How old are you?

Mr. SHARP. You had to disclose it, didn't you.

Mr. SYNAR. How old are you?

Mr. SHARP. Just over 29. Forty-three, Mike.

Mr. SYNAR. Anyway, happy birthday to you.

Mr. SHARP. Thank you.

Mr. SYNAR. I want to commend you for calling today's hearing as a part of the series of hearings over the next several weeks to explore the world oil outlook and the future of domestic energy industry.

These are indeed very timely hearings because in my view the energy industry is currently undergoing a dramatic revolution unmatched by any other domestic industry.

The only agreement that we have among energy experts appears to be that there is no agreement on the future of energy prices. The track record for such forecasting underscores the uncertainties we face.

As one witness at last week's hearing indicated, oil has indeed become a market commodity and like other commodities, its future will best be determined by the interactions of the interdependent global market.

I have always believed that market forces can and will allocate energy supply and demand in the most efficient manner. Indeed, we have come a long way in my opinion toward restoring market forces in the energy industry. In some areas we still have farther to go.

But the free market alone does not make national energy policy. What I am concerned about is the sum total of the many changes underway in today's energy industry which may not be fully consistent with what I think is important long—term security and economic interests in our Nation and around the world.

Let me just take a couple of seconds, if I could, and talk about that because I think that sometimes we forget that our energy policy in this country sometimes doesn't fit together; but if one looks at what is being done with respect to taxes, what is being done with respect to the International Energy Agency and our obligations there, what is being done with respect to the synthetic fuels development in this country and the failure of the Synthetic Fuels Corporation, what is being recommended and done with the strategic petroleum reserve, and what is being done with the refinery capacity in our country and the 30 to 40 percent of the industry collapsing within the last year, and if one adds to that the merger fever and the financial restructuring going on in the energy field and finally if one looks at what we are doing in alternative fuels research and development, one would be very disturbed and one could come very easily to the conclusion that we are more energy vulnerable today than we were back in the 1970's.

Now, while the administration argues that the impact of their tax proposal will be minimal, we have very precious little information about the overall effect of this proposal when taken into context with the financial restructuring underway right now in domestic energy companies.

At the same time, the budget requests of the President in recent years have decimated Federal assistance for fossil energy research and development, yet the administration is prepared to squander billions of tax dollars on the commercialization of uneconomic synfuels technologies.

These are just a few of the uncertainties and inconsistencies which must be addressed and the time to do so is now. I look forward to hearing from Secretary Herrington today as we try to piece together our Federal energy policy and its impact on the future of world oil prices as well as our domestic energy business.

Mr. Sharp. I thank the gentleman. Mr. Secretary, we are delighted to have you with us and as you are accustomed, we will be happy to make any written materials that you want to offer to our record a part of the record and we will be delighted to hear your oral presentation at this time.

STATEMENT OF HON. JOHN S. HERRINGTON, SECRETARY, DEPARTMENT OF ENERGY, ACCOMPANIED BY WILLIAM J. SILVEY, DEPUTY ASSISTANT SECRETARY, POLICY, PLANNING AND ANALYSIS

Secretary HERRINGTON. Thank you, Mr. Chairman. If I could, I would like to introduce William Silvey, the Acting Director of our Office of Policy, Planning and Analysis, and on my right, George Bradley, Acting Assistant Secretary for International Affairs. George Bradley went with me to Paris earlier last week and sat in on all the IEA ministerial meetings I attended.

I do have a written statement that I appreciate you submitting for the record and I would like to give you a brief oral statement and try to keep it as short as possible in keeping with the importance of this hearing.

I would like to summarize a couple of things. As you have stated, the topic of this hearing is one of the most important questions facing our Nation.

I think all of us realize that energy is a major element of our economy because it powers our industries, heats our homes, helps grow our food and gives us personal mobility. Energy has been instrumental in creating America's tremendous prosperity.

From the beginning of the Reagan administration, it has been our goal to have a national energy policy that fosters an adequate supply of energy at a reasonable cost. this goal recognizes that to achieve an adequate supply of energy we must have a flexible energy system that avoids undue dependence on any single resource, either foreign or domestic.

Our Nation did not always have this same degree of energy security. In the 1970's, we faced a future that we could not control. Energy prices were skyrocketing, sending economic shock waves around the globe. As a result of government intervention, our energy supplies were poorly allocated, leading to long gas lines and disruptions in industrial activity. America seemed to be at the mercy of an energy cartel.

President Reagan translated the lessons of the past into policies for the future.

The administration is now pursuing energy security along a number of tracks. Our energy policy includes several vital concepts that promote energy security.

No. 1, we need a strong and viable energy industry within a free market economy. America must be able to explore, locate, develop, and utilize new energy resources to meet our needs.

No. 2, we must have an effective strategy for emergency preparedness so that we will be protected against unforeseen disruptions in the world energy marketplace. The strategic petroleum reserve is critical to this strategy.

We must avoid over dependence upon any one energy resource. There is strength in a diversity of energy resources, a strength that occurs only when the marketplace has flexibility to adjust to change and technological breakthroughs.

Having set these general strategies for improving energy security, the administration has pursued a number of policies to achieve these goals. Taken together, these policies represent a coordinated energy plan to strengthen our national energy security.

I have addressed these policies somewhat at length in my written testimony.

There is only area that is especially timely, Mr. Chairman, that, I would like to emphasize it during these opening remarks, and that is international agreements.

Last week I had the opportunity to lead the U.S. delegation to the July 9 International Energy Agency Ministerial in Paris. This meeting was a great step forward for the concept of open market energy issues.

I was particularly pleased with the general emphasis on the importance of a market focus. We reached agreement on a number of broad issues that provide a framework to increase secure supplies of energy and reduce our vulnerability.

These issues include long-term natural gas supply security, coordination of oil stock policy, and increased international collaboration on basic research and development.

I was heartened that the Japanese agreed to language in the IEA communique that commits them to move expeditiously and without market distortion to open their markets further to gasoline, kerosene, and other refined imported petroleum products.

Based on my conversations with members of the Japanese delegation, I am confident that they will follow through on their commitments. I believe that this will be a significant advancement in promoting an open market worldwide.

Let me also note that last week's meeting marked IEA's 10th anniversary and, therefore, it had a symbolic aspect. The session provided the member nations with an opportunity to review our impressive progress in energy security since the 1973 oil shock.

The ministers agreed that one of the principal lessons of the past decade is that no nation can effectively cope with global energy problems on its own. We are all committed to continued cooperation to build further upon recent improvements.

In the area of petroleum product imports, part of this cooperation includes open markets here in the United States. Some individuals have recently suggested that the current level of petroleum product imports is endangering our energy security.

However, based on our review of the present situation, we do not believe that import protection is justified or needed at this time. Having said this, let me add that I firmly believe that free market trade must also be fair market trade. The output from the new Middle East refineries can be absorbed and competitive world market forces should be allowed to determine the most efficient allocation of this output.

Mr. Chairman, I understand that the members of this subcommittee would like our analysis of the world oil outlook. In brief, the decline in oil consumption in the United States and other western nations has had a significant impact on world markets. After the price shocks of the past 10 years, oil consumers improved their energy efficiency and switched to alternative, more competitively priced fuels.

World oil consumption is now 5 to 6 million barrels per day lower than the peak in 1979. This and a number of other factors have resulted in shut-in oil production today of about 10 million barrels worldwide.

We expect that downward pressure on oil prices will continue over the near term. It is possible that in the long term, the world oil market could tighten somewhat as current excess production capacity is worked off.

We see free market competition at work in another area about which some individuals have expressed concern, and that area is mergers. Some worry that the recent oil company mergers will reduce secure domestic oil and natural gas exploration and production. The Energy Department disagrees. The U.S. drilling activity is largely affected by expectations of future oil and gas prices and the geological attractiveness and development costs of undrilled domestic prospects. All of these factors are unaffected by mergers.

The impact of tax policy is another issue that interests those concerned about energy security. Because of time constraints, we will be unable to deal comprehensively today with President Reagan's tax reform proposal.

Nevertheless, let me state that we believe the President's plan supports our basic energy goals of minimizing Federal involvement in energy markets while promoting a mixed and balanced energy system.

Incentives that are needed to maintain our energy security are maintained in the President's proposal, while it would eliminate or modify other provisions in order to promote neutrality in the taxation of the oil and gas industry as compared with other industries.

In conclusion, Mr. Chairman, I want to report that America is much more energy secure today than it was 4½ years ago. Production is up and energy efficiency is vastly improved.

Total energy consumption last year was about equal to that of 1973, when our population and our economic activity were smaller, yet economic output has continued to expand despite the per capita reduction of our energy usage.

In fact, the amount of energy required to produce a constant dollar of gross national product has declined by more than 20 percent since 1973.

This administration places its confidence in the ability of the American people to respond to market forces and determine an efficient energy mix that assures adequate supplies at reasonable costs.

I think the record of the past 4½ years demonstrates that this confidence has not been misplaced. America's energy security is very solid today.

This concludes my opening remarks and I will endeavor to answer questions for you at this time. Thank you, Mr. Chairman.

[Testimony resumes on p. 226.]

[The prepared statement of Secretary Herrington follows:]

TESTIMONY OF
SECRETARY JOHN S. HERRINGTON

Mr. Chairman and Members of the Subcommittee, I am pleased to appear before you to discuss U.S. Energy Security, the current situation, and the outlook.

The topic of this hearing is one of the most important questions facing our Nation. I think all of us realize that energy is a major cornerstone of our economy. Energy, which powers our industries, heats our homes, helps grow our food and gives us personal mobility, has been instrumental in creating America's tremendous prosperity.

From the beginning of the Reagan Administration, it has been our goal to have a national energy policy that fosters an adequate supply of energy at reasonable costs. This goal recognizes that to achieve an adequate supply of energy, we must have a flexible energy system that avoids undue dependence on any single energy resource or source of supply, foreign or domestic.

Our nation did not always have this energy security. In the 1970s, we faced a future we could not control. Energy prices were skyrocketing, sending economic shockwaves around the globe. Our energy supplies were poorly allocated through government intervention, leading to long gas lines and disruptions in industrial activity. America seemed to be at the mercy of an energy cartel.

FOLLOWING THE PRESIDENT'S LEAD, THE ADMINISTRATION HAS TAKEN A VARIETY OF ACTIONS TO STRENGTHEN OUR ENERGY SECURITY. WE HAVE PROMOTED A STRONG AND VIABLE ENERGY INDUSTRY WITHIN A FREE MARKET ECONOMY. AMERICA MUST BE ABLE TO EXPLORE FOR, LOCATE, DEVELOP AND UTILIZE NEW ENERGY SOURCES. WE BELIEVE THIS IS BEST DONE IN A CLIMATE OF REDUCED GOVERNMENT REGULATION, FEWER CONTROLS, AND LOWER TAXES. THE PAST HAS SHOWN THAT GOVERNMENT INTERVENTION CREATES RIGIDITIES THAT PREVENT OR DISCOURAGE MARKET FORCES FROM ADJUSTING TO CHANGE, LEAVING NO ROOM FOR APPROPRIATE ECONOMIC ADJUSTMENTS OR TECHNOLOGICAL BREAKTHROUGHS.

WE HAVE ALSO SOUGHT TO STEER AMERICA AWAY FROM AN OVERDEPENDENCE ON ANY ONE ENERGY SOURCE. THIS MEANS DIVERSITY. AMERICA NEEDS A NUMBER OF ENERGY RESOURCES, INCLUDING NUCLEAR ENERGY, FOSSIL FUELS, SOLAR AND OTHER RENEWABLES, AND CONSERVATION. WE ALSO NEED AN ECONOMICALLY EFFICIENT, FLEXIBLE ENERGY SYSTEM IN WHICH THE MIX OF ENERGY SUPPLIES IS APPROPRIATE TO SUPPORT ECONOMIC GROWTH AND ADEQUATE TO PERMIT PRODUCERS AND CONSUMERS TO CHOOSE FREELY AMONG A RANGE OF ENERGY OPTIONS. ONCE AGAIN, WE BELIEVE THAT THE MARKETPLACE, RATHER THAN THE GOVERNMENT, IS BEST AT MAKING THESE DECISIONS.

THIS DOES NOT MEAN WE BELIEVE GOVERNMENT HAS NO ROLE TO PLAY IN ENERGY POLICY. WE RECOGNIZE THAT PROTECTING THE ENVIRONMENT AND MAINTAINING HEALTH AND SAFETY STANDARDS ARE IMPORTANT GOVERNMENT RESPONSIBILITIES. GOVERNMENT ALSO HAS AN IMPORTANT RESPONSIBILITY FOR PROMOTING EMERGENCY PREPAREDNESS. UNDER THE

Reagan Administration, for example, we have significantly increased the holdings in the Strategic Petroleum Reserves. By the end of this fiscal year, we will have 489 million barrels, which is the equivalent of 108 days of 1984 net petroleum imports.

As a result of these policies, America is much more energy secure than it was four and a half years ago. The gas lines and shortages have disappeared. Production is up and our energy efficiency is vastly improved. Total energy consumption last year was about equal to that of 1973, when our population and our economic activity were smaller. Yet, economic output has continued to expand despite the per capita reduction of our energy usage. In fact, the amount of energy required to produce a constant dollar of Gross National Product has declined by more than 20% since 1973. In the past four years, energy efficiency increased 13 percent -- the greatest improvement in any four-year period in our history. However, even though our progress has been impressive, we must not succumb to complacency. We must never again allow ourselves to become as vulnerable as we were in the 1970s. Domestically, we must maintain a strong emergency preparedness posture and pursue the avenues of resource development open to us. Failure to remove impediments to the production and use of domestic energy resources such as coal, nuclear power and our oil and gas supplies risks a return to the bleak period we previously faced.

MOREOVER, WE MUST REMEMBER THAT THE INTERNATIONAL ECONOMY IS HEAVILY INTERDEPENDENT. MANY OF OUR FREE WORLD ALLIES, TO WHOM OUR OWN NATIONAL SECURITY AND ECONOMIC WELFARE IS CLOSELY LINKED, ARE FAR MORE VULNERABLE IN THE ENERGY SPHERE THAN WE ARE. WESTERN EUROPE, FOR EXAMPLE, STILL IMPORTS ABOUT FORTY PERCENT OF ITS NET ENERGY REQUIREMENTS AND JAPAN IMPORTS VIRTUALLY ALL OF ITS ENERGY.

THEREFORE, IN ADDITION TO OUR DOMESTIC EFFORTS IN MEETING EMERGENCY PREPAREDNESS AND LONGER-TERM DEVELOPMENT GOAL, IT IS ESSENTIAL THAT WE MAINTAIN A STRONG INTERNATIONAL PROGRAM. INDEED, WE SEEK TO FURTHER STRENGTHEN COOPERATION WITH OUR PARTNERS IN THE INTERNATIONAL ENERGY AGENCY, WHOSE MEMBERS INCLUDE ALMOST ALL FREE WORLD INDUSTRIALIZED NATIONS. CONGRESS' ACTION LAST MONTH TO EXTEND THE LEGISLATIVE FRAMEWORK FOR OUR PARTICIPATION IN THE IEA AS PART OF THE RENEWAL OF THE ENERGY POLICY AND CONSERVATION ACT WAS A WELCOMED SIGN OF LEGISLATIVE BRANCH SUPPORT FOR THIS APPROACH.

INTERNATIONAL AGREEMENTS

LAST WEEK I HAD THE OPPORTUNITY TO LEAD THE U.S. DELEGATION TO THE JULY 9 IEA MINISTERIAL MEETING IN PARIS. THE RESULTS OF THE MEETING WERE MOST SATISFACTORY. I WAS PARTICULARLY PLEASED WITH THE GENERAL EMPHASIS PLACED ON THE IMPORTANCE OF THE OPERATION OF MARKET FORCES. WE REACHED AGREEMENT ON A BROAD RANGE OF ISSUES THAT PROVIDE A FRAMEWORK TO INCREASE SECURE

SUPPLIES OF ENERGY AND REDUCE OUR VULNERABILITY. THESE ISSUES INCLUDE LONG-TERM NATURAL GAS SUPPLY SECURITY, COORDINATION OF OIL STOCK POLICY, AND INCREASED INTERNATIONAL COLLABORATION IN BASIC RESEARCH AND DEVELOPMENT. THE OUTCOME OF OUR DISCUSSIONS ON PETROLEUM PRODUCT IMPORTS, WHICH I WILL RETURN TO LATER, WAS A MAJOR STEP FORWARD ON A CONTENTIOUS ISSUE.

I WOULD ALSO NOTE THAT THE MEETING MARKED THE 10TH ANNIVERSARY OF THE IEA AND HAD, THEREFORE, A SYMBOLIC ASPECT. THE SESSION PROVIDED AN OPPORTUNITY TO REVIEW THE IMPRESSIVE PROGRESS IN THE ENERGY SECURITY OF THE MEMBERS SINCE THE 1973 OIL SHOCK. THE MINISTERS AGREED THAT ONE OF THE PRINCIPLE LESSONS OF THE PAST DECADE IS THAT NO NATION CAN EFFECTIVELY COPE WITH GLOBAL ENERGY PROBLEMS ON ITS OWN. WE ARE ALL COMMITTED TO CONTINUED COLLABORATION TO BUILD FURTHER UPON THE IMPROVEMENTS GAINED IN RECENT YEARS IN OUR COLLECTIVE ENERGY SECURITY.

STRONG VIABLE ENERGY INDUSTRY

HAVING OUTLINED FOR YOU AN OVERALL POLICY PICTURE OF WHERE WE WERE AND WHERE WE OUGHT TO BE GOING, LET ME NOW RETURN TO FOCUS ON SPECIFIC DOMESTIC POLICY ISSUES THAT WE MUST ADDRESS IN ORDER TO BUILD A STRONG VIABLE ENERGY INDUSTRY TO PROVIDE FUTURE SECURE SUPPLIES. TODAY I WOULD LIKE TO TALK ABOUT TWO KEY ELEMENTS OF ENERGY SECURITY: COMPETITION AND AN EQUITABLE TAX STRUCTURE.

Competition

We believe that when energy industries compete against each other, they become more productive, better attuned to consumers' needs, and better equipped to meet foreign challenges. The past four years have demonstrated the wisdom of these policies. Because of the increased emphasis on the marketplace, America's energy security is stronger now than it has been in more than a decade. We have set forth several steps to enhance competition, including the promotion of petroleum decontrol, the lessening of the federal role in the marketplace, and establishing a sound policy for petroleum product imports and for mergers.

Decontrol. One of President Reagan's first acts as Chief Executive was his decision to lift price controls on petroleum. At the time, there were those who said this action would send energy prices soaring. They predicted that gasoline would reach two or three dollars per gallon.

In fact, the opposite occurred. The price of petroleum is falling. At the same time, U.S. oil production has increased. Producers realized they would be able to get a fair return on their product so they were willing to search for new sources.

Oil Decontrol - World Markets. The decline in oil consumption in the U.S. and other Western nations through heightened conservation and fuel substitution has had a

SIGNIFICANT IMPACT ON WORLD MARKETS. THE LEVEL OF OIL CONSUMPTION CONTINUES TO RESPOND TO CHANGES IN PRICES. AFTER THE PRICE SHOCKS OF THE PAST DECADE, OIL CONSUMERS HAVE IMPROVED THEIR ENERGY EFFICIENCY AND SWITCHED TO ALTERNATE, MORE PRICE-COMPETITIVE FUELS. WORLD OIL CONSUMPTION IS NOW 5-6 MILLION B/D LOWER THAN THE PEAK IN 1979.

WHILE WORLD OIL CONSUMPTION HAS DECLINED, OIL PRODUCTION FROM NON-OPEC SOURCES HAS INCREASED. ADDITIONALLY, NEW OIL RESOURCES ARE UNDER DEVELOPMENT IN SUCH PLACES AS COLOMBIA, YEMEN, CHINA, AND THE OFFSHORE AREA OF SOUTHERN CALIFORNIA.

NON-OIL ENERGY USE HAS INCREASED AS WELL, PARTICULARLY THE USE OF COAL AND NUCLEAR POWER, AND WE CONTINUE TO SEE THESE NON-OIL SUPPLIES INCREASING THEIR SHARE OF THE WORLD'S ENERGY MARKET.

THE COMBINATION OF THESE FACTORS HAS RESULTED IN SHUT-IN OIL PRODUCTION CAPACITY OF ABOUT 10 MILLION BARRELS PER DAY WORLD WIDE. AS A RESULT WE EXPECT THAT DOWNWARD PRESSURE ON WORLD OIL PRICES WILL CONTINUE OVER THE NEAR TERM: ALTHOUGH LONGER-TERM PREDICTIONS ARE FAR MORE TENTATIVE, IT IS POSSIBLE THAT THE WORLD OIL MARKET COULD TIGHTEN UP SOMEWHAT IN THE NEXT DECADE AS THE CURRENT EXCESS PRODUCTION CAPACITY IS WORKED OFF.

THE LONGER TERM OUTLOOK WILL DEPEND IN PART ON THE BASIC ECONOMIC AND TECHNOLOGICAL FORCES IN THE MARKET. HOWEVER, CONGRESSIONAL DECISIONS ON FEDERAL LAND LEASING, FURTHER DECONTROL OF NATURAL GAS MARKETS, NUCLEAR LICENSING REFORM, ACID RAIN, COAL MINING REGULATIONS, PETROLEUM PRODUCT IMPORTS, INCOME TAXES, AND SEVERAL OTHER ISSUES WILL HAVE A MAJOR IMPACT ON DOMESTIC PRODUCTION OF ENERGY AND OUR DEPENDENCE ON IMPORTS.

NATURAL GAS. LIKE THE OIL INDUSTRY, THE NATURAL GAS INDUSTRY WAS ONE THAT SUFFERED DURING THE 1970S FROM CHRONIC SHORTAGES AND MISALLOCATIONS BECAUSE OF FEDERAL INTERVENTION IN THE MARKETPLACE THAT REDUCED COMPETITION. BY TRYING TO CONTROL PRICES, THE GOVERNMENT CREATED LARGE DISINCENTIVES TO EXPLORE FOR NATURAL GAS AND TO SELL IT IN THOSE REGIONS OF THE NATION THAT NEEDED IT THE MOST. NEAR THE END OF THE DECADE, CONGRESS REALIZED THAT THE GOVERNMENT WAS CONTRIBUTING TO NATURAL GAS SHORTAGES AND PASSED LEGISLATION THAT PROVIDED FOR PARTIAL DECONTROL.

THESE FIRST STEPS CONTRIBUTED SOMEWHAT TO ENERGY SECURITY AND COMPETITION, BUT THE LEGISLATION DID NOT GO FAR ENOUGH. WE BELIEVE THAT PRICES WOULD DECLINE AND SUPPLIES WOULD INCREASE FURTHER IF MORE COMPLETE DECONTROL EXISTED. WE HAVE ADVOCATED THIS REMEDIAL ACTION BUT NO BILL HAS YET PASSED THE CONGRESS. WE CONTINUE TO SUPPORT ADDITIONAL DECONTROL OF NATURAL GAS BECAUSE WE BELIEVE IT WOULD FURTHER REMOVE THE GOVERNMENT FROM THE MARKETPLACE AND SUBSTANTIALLY INCREASE OUR ENERGY SECURITY.

Minimized Federal Intervention in the Free Market. The oil and natural gas record of the 1970s shows that Federal intervention in the energy marketplace is counter-productive. This is because the government cannot deal adequately with the various factors in a system as complex as the Nation's energy system.

The system of energy entitlements of the last decade is a good example of Federal intervention that disrupted the marketplace and actually contributed to shortages. Some sectors ended up with more energy than they needed while others suffered from scarcities. These entitlements have been eliminated and the marketplace has distributed our energy resources much more efficiently.

Petroleum Product Imports. We believe in extending the principles of competition and minimized Federal involvement to the international market. Some individuals have recently suggested that the current level of petroleum product imports is endangering our energy security. They have raised concerns regarding the growth in gasoline imports in the last few years and the impacts of new refineries being built in the Middle East.

Based upon our review of the present situation we do not believe that import protection is justified or needed. Having said this, let me add that I firmly believe that free trade must also be fair trade. The output from the new Middle-East

REFINERIES CAN BE ABSORBED BUT COMPETITIVE WORLD MARKET FORCES SHOULD BE ALLOWED TO DETERMINE THE MOST EFFICIENT ALLOCATION OF THIS OUTPUT.

LAST WEEK I HAD THE OPPORTUNITY TO REPRESENT THE U.S. AT THE MINISTERIAL MEETING OF THE INTERNATIONAL ENERGY AGENCY (IEA) IN PARIS, FRANCE AND TO EXCHANGE VIEWS ON THIS AND OTHER ENERGY MATTERS WITH MY COUNTERPARTS FROM THE OTHER MEMBER NATIONS.

I AM PLEASED TO REPORT THAT ALL TWENTY ONE MEMBERS OF THE IEA AGREED TO A COMMON APPROACH WHEREBY THEY WILL MAINTAIN OR EXPEDITIOUSLY CREATE OPEN MARKET CONDITIONS SO THAT ADDITIONAL PETROLEUM PRODUCTS CAN FLOW TO EACH IEA MEMBER COUNTRY WITHOUT DISTORTIONS OF THE MARKET. IN MY VIEW THIS IS THE ONLY CORRECT RESPONSE.

I WAS PARTICULARLY HEARTENED THAT THE JAPANESE AGREED TO LANGUAGE IN THE IEA COMMUNIQUE THAT COMMITS THEM TO MOVE EXPEDITIOUSLY AND WITHOUT MARKET DISTORTION TO INCREASE IMPORTS OF GASOLINE AND OTHER REFINED PETROLEUM PRODUCTS. BASED ON MY CONVERSATIONS WITH MEMBERS OF THE JAPANESE DELEGATION, I AM CONFIDENT THEY WILL FOLLOW THROUGH ON THESE COMMITMENTS. I BELIEVE THIS WILL BE A SIGNIFICANT ADVANCEMENT IN PROMOTING A WORLD OPEN MARKET POLICY.

AS I ARGUED AT THE IEA MEETING IN PARIS, I DO NOT BELIEVE THAT IT IS IN THE BEST INTERESTS OF ANY COUNTRY TO INSULATE ANY

SECTOR OF ITS MARKET FROM INTERNATIONAL COMPETITION, UNLESS ITS NATIONAL SECURITY IS AFFECTED. THIS INCLUDES THE UNITED STATES. WHILE WE WILL NOT ALLOW DOMESTIC REFINERY CAPACITY TO GET SO LOW AS TO THREATEN OUR ENERGY SECURITY, WE ALSO MUST NOT DEPRIVE THE AMERICAN CONSUMER OF THE BENEFITS THAT RESULT FROM FREE COMPETITION AND LOWER PRICES.

MERGERS. WE SEE FREE MARKET COMPETITION AT WORK IN ANOTHER AREA ABOUT WHICH SOME INDIVIDUALS HAVE EXPRESSED CONCERN -- MERGERS. SOME WORRY THAT RECENT OIL COMPANY MERGERS WILL REDUCE DOMESTIC OIL AND NATURAL GAS EXPLORATION AND PRODUCTION. WE DISAGREE. WE SEE THIS AS THE FREE MARKET AT WORK AND WE DO NOT BELIEVE IT WILL ADVERSELY AFFECT OUR ENERGY SECURITY.

THE PRIMARY DETERMINANTS OF U.S. DRILLING ACTIVITY ARE EXPECTED FUTURE OIL AND GAS PRICES AND THE GEOLOGICAL ATTRACTIVENESS AND DEVELOPMENT COSTS OF UNDRILLED DOMESTIC PROSPECTS. SINCE OIL COMPANY MERGERS WILL NOT AFFECT THESE FACTORS, MERGERS NEED NOT AFFECT THE TOTAL LEVEL OF U.S. EXPLORATION ACTIVITY.

MERGERS ARE NOT AT ALL UNUSUAL IN INDUSTRY AND THESE RECENT MERGERS DEMONSTRATE THE ABILITY OF THE OIL AND GAS INDUSTRY TO ADJUST QUICKLY AND EFFICIENTLY TO CHANGING CIRCUMSTANCES. IN FACT, THERE IS A STRONG POSSIBILITY THAT THE NEWLY COMBINED FIRMS WOULD BE MORE EFFECTIVE IN THE EXPLORATION AND DEVELOPMENT OF OUR OIL AND GAS RESOURCES.

MOREOVER, WITH RESPECT TO COMPETITION IN THE OIL AND GAS INDUSTRY, EXISTING ANTITRUST LAWS PROVIDE BOTH THE DEPARTMENT OF JUSTICE AND THE FEDERAL TRADE COMMISSION (FTC) WITH AMPLE AUTHORITY TO REVIEW AND ANALYZE THE EFFECT ON COMPETITION OF MERGERS AMONG MAJOR OIL COMPANIES. BOTH THE DEPARTMENT OF JUSTICE AND THE FTC HAVE STATUTORY AUTHORITY TO SUE TO ENJOIN ANY MERGERS THAT WOULD SUBSTANTIALLY LESSEN COMPETITION AND TO SEEK OTHER APPROPRIATE RELIEF AGAINST ANY EXISTING OIL COMPANY THAT IS RESTRAINING COMPETITION.

FOR THESE REASONS, WE OPPOSE ANY ANTIMERGER LEGISLATION, INCLUDING A MORATORIUM, THAT COULD ARBITRARILY INTERFERE WITH THE OPERATION OF CAPITAL MARKETS AND CREATE UNNECESSARY CONFUSION AND DISRUPTION, WHILE ADDING NOTHING TO THE FEDERAL GOVERNMENT'S ABILITY TO PREVENT AND REMEDY ANY ANTICOMPETITIVE ACTIONS WHICH MAY OCCUR IN THIS INDUSTRY. WE ARE ALSO CONCERNED THAT INTERFERENCE WITH SUCH ENERGY INVESTMENTS COULD DRIVE AVAILABLE RESOURCES AWAY FROM THE ENERGY SECTOR.

TAXES

BECAUSE FEDERAL TAX POLICY HAS A CRITICAL EFFECT ON THE STRENGTH AND VIABILITY OF OUR ENERGY INDUSTRIES, WE ADVOCATE A TAX CODE THAT WILL MAINTAIN A STRONG AND VIABLE ENERGY INDUSTRY. THE PRESIDENT'S RECENT PROPOSAL FOR TAX REFORM BALANCES THE

NATION'S ENERGY SECURITY NEEDS AGAINST THE BENEFITS OF TAX SIMPLIFICATION. WE BELIEVE THE PLAN SUPPORTS OUR BASIC ENERGY GOALS OF MINIMIZING FEDERAL INVOLVEMENT IN ENERGY MARKETS WHILE PROMOTING A BALANCED AND MIXED ENERGY SYSTEM. INCENTIVES THAT ARE NECESSARY TO MAINTAIN OUR ENERGY SECURITY ARE RETAINED, WHILE AT THE SAME TIME OTHER PROVISIONS ARE ELIMINATED OR MODIFIED IN ORDER TO PROMOTE NEUTRALITY IN THE TAXATION OF THE OIL AND GAS INDUSTRY, AS COMPARED WITH OTHER INDUSTRIES.

INTANGIBLE DRILLING COSTS. THE PRESIDENT'S PROPOSAL RETAINS THE EXPENSING OF INTANGIBLE DRILLING COSTS (IDC'S). INTANGIBLE DRILLING COSTS INCLUDE AMOUNTS PAID FOR LABOR, FUEL, REPAIRS, AND SITE PREPARATION NECESSARY FOR THE ACTUAL DRILLING. UNDER CURRENT LAW, INTEGRATED OIL AND GAS PRODUCERS MAY EXPENSE 80 PERCENT OF INTANGIBLE DRILLING COSTS; INDEPENDENTS CAN ELECT TO EXPENSE ALL OF THEIR IDC'S. INTANGIBLE DRILLING COSTS CAN REPRESENT AS MUCH AS 75 PERCENT OF THE COSTS NECESSARY TO DISCOVER AND DEVELOP OIL AND GAS RESERVES.

GIVEN THE UNIQUE RISKS INVOLVED IN EXPLORING FOR OIL AND NATURAL GAS, AND THE VARYING NATURE OF THE COSTS INCURRED IN DRILLING A WELL, IT IS VERY DIFFICULT TO SAY EXACTLY WHAT AN APPROPRIATE METHOD OF COST RECOVERY FOR IDC'S WOULD LOOK LIKE. WE DO NOT BELIEVE THAT CURRENT TREATMENT OF IDC'S PROMOTES THE OIL AND GAS INDUSTRIES AT THE EXPENSE OF OTHER INDUSTRIES. WE BELIEVE EXPENSING OF IDC'S IS AN ESTABLISHED FORM OF COST RECOVERY THAT ENHANCES BOTH TAX SIMPLIFICATION AND TAX FAIRNESS.

WE ALSO BELIEVE THAT CHANGING FROM THE CURRENT TREATMENT OF IDC'S WOULD BE HIGHLY UNDESIRABLE FROM A STANDPOINT OF ENERGY SECURITY BECAUSE IT WOULD CAUSE A LARGE DECLINE IN THE EXPLORATION AND DRILLING NECESSARY TO SUSTAIN FUTURE OIL AND GAS PRODUCTION.

OVERALL IMPACT. WE ESTIMATE THAT THE OIL AND GAS INDUSTRY AS A WHOLE WILL EXPERIENCE A MODERATE INCREASE IN ITS FEDERAL INCOME TAX AS A RESULT OF THE CHANGES IN THE PRESIDENT'S PROPOSAL. THIS INCREASE IN THE INDUSTRY'S TAX LIABILITY WOULD RESULT FROM THE COMBINED EFFECT OF THE REPEAL OF PERCENTAGE DEPLETION ALLOWANCES, THE ELIMINATION OF THE INVESTMENT TAX CREDIT, AND THE RECAPTURE OF BENEFITS FROM THE LOWER CORPORATE RATE.

OUR ANALYSIS INDICATES THAT ANY INCREASE IN TAX LIABILITIES WILL BE SMALL, AS CERTAIN "BENEFITS" IN THE PACKAGE (THE REDUCED CORPORATE TAX RATE AND INDEXING OF DEPRECIATION AND DEPLETION ALLOWANCES) WILL NEARLY OFFSET THE EFFECTS OF OTHER PROVISIONS OF THE PROPOSAL OUTLINED ABOVE. WITHIN THE OIL AND GAS INDUSTRY, THERE WILL BE COMPANIES THAT GAIN AS WELL AS COMPANIES THAT LOSE UNDER THE PRESIDENT'S TAX PROPOSAL. BUT THE NET EFFECT WILL BE MORE EFFICIENT USE OF OUR NATURAL RESOURCES WHICH IN TURN WILL LEAD TO SUSTAINED ECONOMIC GROWTH.

IN THE NEAR TERM, FROM 1986 TO 1992, THE TAX SIMPLIFICATION PLAN MAY CAUSE A SMALL REDUCTION IN DOMESTIC OIL PRODUCTION. WE

ESTIMATE THAT IN 1988 THIS EFFECT OF THE PRESIDENT'S TAX REFORM PROPOSAL COULD BE A REDUCTION IN OIL PRODUCTION OF UP TO 130 THOUSAND BARRELS PER DAY, WITH AN EQUIVALENT EFFECT ON NATURAL GAS FROM WHAT PRODUCTION WOULD BE UNDER THE CURRENT TAX SYSTEM.

THIS MODERATE EFFECT WOULD DIMINISH OVER TIME AS THE INDUSTRY ADJUSTS TO THE NEW TAX PROVISIONS. REDUCTIONS OF THIS MAGNITUDE IN THE DOMESTIC PRODUCTION OF OIL AND NATURAL GAS PRESENT LITTLE THREAT TO OUR NATION'S ENERGY SECURITY.

EFFECTIVE EMERGENCY PREPAREDNESS

ANOTHER IMPORTANT LESSON OF THE 1970S WAS THAT ENERGY SECURITY MEANS PROTECTION AGAINST UNFORESEEN ENERGY EMERGENCIES. PRESIDENT REAGAN HAS BUILT ON THAT LESSON BY BUILDING UP OUR PETROLEUM RESERVES AND IMPROVING OUR RELATIONS WITH OUR ALLIES.

STRATEGIC PETROLEUM RESERVE. THE RAPID FILLING OF THE STRATEGIC PETROLEUM RESERVE (SPR) OVER THE PAST FOUR AND A HALF YEARS HAS BEEN ONE OF THE MOST EFFECTIVE ACTIONS TAKEN BY THE UNITED STATES TO ENHANCE ENERGY SECURITY. THIS STRATEGIC PETROLEUM RESERVE PROVIDES AN INSURANCE POLICY AGAINST UNEXPECTED DISRUPTIONS OF THE INTERNATIONAL SUPPLY OF OIL.

CURRENT MARKET CONDITIONS -- NAMELY LOWER U.S. IMPORT LEVELS AND VERY LARGE AMOUNTS OF EXCESS WORLD OIL PRODUCTION CAPACITY -- REDUCE THE POTENTIAL EFFECTS OF OIL SUPPLY DISRUPTIONS IN THE

NEAR TERM. THE ADMINISTRATION, THEREFORE, HAS PROPOSED A MORATORIUM ON FILLING THE SPR THAT IS CONSISTENT WITH THESE CONDITIONS. AS WORLD OIL MARKET CONDITIONS CHANGE, THE ADMINISTRATION WILL REVIEW SPR FILL RATES TO ENSURE THAT THE INSURANCE PROVIDED BY SPR IS MAINTAINED IN A MANNER THAT IS COST EFFECTIVE.

SINCE THE END OF 1980, THE SUPPLY OF OIL IN THE SPR HAS MORE THAN QUADRUPLED AND BY THE END OF THIS FISCAL YEAR IT WILL CONTAIN 489 MILLION BARRELS OF CRUDE OIL, THE EQUIVALENT OF 108 DAYS OF 1984'S NET PETROLEUM IMPORTS AND NEARLY TWO YEARS OF ARAB OPEC IMPORTS. THANKS TO THIS FARSIGHTED ACTIVITY, AMERICA IS NOW WELL-CUSHIONED AGAINST POTENTIAL JOLTS IN THE WORLD OIL MARKETS.

BALANCED AND MIXED ENERGY SUPPLIES

EMERGENCY PREPAREDNESS CAN PROTECT US AGAINST THE EFFECTS OF SEVERE DISRUPTIONS IN THE INTERNATIONAL ENERGY MARKET. BUT FOR LONG-TERM ENERGY SECURITY, AMERICA MUST PURSUE A STRATEGY THAT AVOIDS AN OVERDEPENDENCE UPON ANY ONE ENERGY SOURCE. THIS MEANS DIVERSITY. OUR NATION NEEDS A NUMBER OF ENERGY RESOURCES, INCLUDING FOSSIL FUELS, SOLAR AND OTHER RENEWABLES, NUCLEAR ENERGY, AND CONSERVATION. WE ALSO NEED AN ECONOMICALLY EFFICIENT, FLEXIBLE ENERGY SYSTEM IN WHICH THE MIX OF ENERGY SUPPLIES IS APPROPRIATE TO SUPPORT ECONOMIC GROWTH AND ADEQUATE TO PERMIT PRODUCERS AND CONSUMERS TO CHOOSE FREELY AMONG A RANGE

OF ENERGY OPTIONS. ONCE AGAIN, WE BELIEVE THAT THE MARKETPLACE, RATHER THAN GOVERNMENT, IS BEST AT MAKING THESE DECISIONS.

THIS DOES NOT MEAN WE BELIEVE GOVERNMENT HAS NO ROLE IN ENERGY POLICY. WE RECOGNIZE THAT PROTECTING THE ENVIRONMENT AND MAINTAINING HEALTH AND SAFETY STANDARDS ARE IMPORTANT GOVERNMENT RESPONSIBILITIES. GOVERNMENT ALSO HAS AN IMPORTANT RESPONSIBILITY FOR PROMOTING EMERGENCY PREPAREDNESS.

BUT JUST AS IMPORTANT, THE GOVERNMENT MUST PROVIDE A STABLE ECONOMIC ENVIRONMENT IN WHICH INDUSTRY CAN THRIVE AND THE AMERICAN PEOPLE CAN PROSPER. LIKE ALL OTHER INDUSTRIES, THE ENERGY INDUSTRY IS STRONGER WHEN THE U.S. ECONOMY IS GROWING. GOVERNMENT SHOULD ALSO STRIVE TO MAINTAIN A FREE MARKET ATMOSPHERE IN WHICH ALL ECONOMIC SECTORS CAN COMPETE FAIRLY. THAT IS WHY WE HAVE SOUGHT DECONTROL AND TAX REFORM. A GOVERNMENT THAT TIES DOWN ITS ENERGY INDUSTRY IN RED TAPE AND HIGH TAXATION IS NOT CONTRIBUTING TO ENERGY SECURITY.

WITHIN A COMPETITIVE AND DYNAMIC ECONOMY, THE MARKETPLACE WILL NATURALLY SEEK A BALANCED AND MIXED ENERGY SYSTEM. OUR POLICIES OVER THE PAST FOUR AND A HALF YEARS HAVE BEEN DESIGNED TO ENHANCE THIS DIVERSITY.

NUCLEAR POWER. NUCLEAR POWER, FOR EXAMPLE, HAS SEEN ITS ONCE BRIGHT FUTURE DARKENED OVER THE PAST 15 YEARS. SINCE 1972, 114 PLANT ORDERS HAVE BEEN CANCELLED AND THERE HAVE BEEN NO NEW

ORDERS FOR NUCLEAR PLANTS SINCE 1978. THERE ARE MANY REASONS FOR THE PROBLEMS WITHIN THE NUCLEAR INDUSTRY, INCLUDING A LESS-THAN-ANTICIPATED DEMAND FOR ELECTRICITY.

BUT LOWER THAN ANTICIPATED DEMAND ALONE DOES NOT ACCOUNT FOR THE DIFFICULTIES FACING THE NUCLEAR POWER INDUSTRY. CONCERNS FOR SAFETY, SKYROCKETING CONSTRUCTION COSTS, AND A CUMBERSOME AND UNCERTAIN FEDERAL REGULATORY PROCESS HAVE DISCOURAGED MANY UTILITIES. YET NUCLEAR POWER IS ONE OF THE MOST VIABLE OPTIONS IN MEETING AMERICA'S FUTURE ENERGY NEEDS AT A TIME WHEN ELECTRICITY DEMAND IS GROWING AGAIN AND NEW GENERATION FACILITIES MIGHT BE NEEDED IN ORDER TO MEET FUTURE DEMAND.

NUCLEAR POWER CAN MAKE AN IMPORTANT CONTRIBUTION TO OUR ENERGY DIVERSITY. IT PRODUCES 15% OF TOTAL U.S. ELECTRICITY, SECOND ONLY TO COAL AS A SOURCE OF ELECTRICITY GENERATION. WE BELIEVE THAT IF THE GOVERNMENT IS PART OF THE PROBLEM IN THE NUCLEAR INDUSTRY, IT SHOULD BE PART OF THE SOLUTION. TO HELP NUCLEAR POWER COMPETE IN THE MARKETPLACE, WE ARE SEEKING REFORM OF THE NUCLEAR LICENSING PROCESS. WE ARE ALSO SEEKING TO EXTEND THE PRICE-ANDERSON ACT AND WE ARE IMPLEMENTING THE NUCLEAR WASTE POLICY ACT OF 1982, WHICH SHOULD REMOVE FROM CONCERN THE PROBLEM OF HIGH-LEVEL NUCLEAR WASTE.

COAL. COAL IS AMERICA'S MOST ABUNDANT ENERGY RESOURCE. WE USE COAL TODAY TO GENERATE 55 PERCENT OF OUR ELECTRICITY. THERE IS NO FUNDAMENTAL REASON WHY COAL CANNOT PLAY A GREATER ROLE IN

THE INDUSTRIAL, COMMERCIAL AND RESIDENTIAL SECTORS OF OUR ECONOMY, JUST AS IT IS DOING TODAY IN THE UTILITY SECTOR.

THE KEY TO ACHIEVING THE FULL POTENTIAL OF COAL IS TO MAINTAIN APPROPRIATE ENVIRONMENTAL STANDARDS AND IN PARTICULAR, TO AVOID UNNECESSARY AND UNWISE NEW ACID RAIN EMISSION CONTROLS. THE DEVELOPMENT OF CLEAN COAL TECHNOLOGIES WILL ALSO SERVE TO PROMOTE THE INCREASED USE OF COAL. CLEAN COAL TECHNOLOGIES HAVE BEEN DEVELOPED AND NEW ONES ARE IN THE RESEARCH STAGE. WE BELIEVE THE MARKET IS THE BEST PLACE FOR DEVELOPING, TESTING, AND SELECTING THE COAL TECHNOLOGIES OF THE FUTURE.

CONSERVATION AND RENEWABLES. SINCE THE ENERGY PRICE SHOCKS OF THE 1970S, ENERGY USE PER DOLLAR OF REAL GNP HAS DECLINED STEADILY, MAKING CONSERVATION ONE OF THE MOST CRITICAL ELEMENTS OF OUR DIVERSE ENERGY SYSTEM. IN THE PAST FOUR YEARS, THIS MEASURE OF ENERGY EFFICIENCY INCREASED 13% -- THE GREATEST IMPROVEMENT IN ANY FOUR YEAR PERIOD IN OUR HISTORY. IMPORTANT ENERGY-EFFICIENCY IMPROVEMENTS HAVE OCCURRED IN A HOST OF AREAS, FROM AUTOMOBILES TO HOMES, OFFICES AND MANUFACTURING PROCESSES. THESE ACCOMPLISHMENTS, COUPLED WITH THE STABILITY OF ENERGY PRICES IN GENERAL AND THE LOWERING OF WORLD OIL PRICES WITHIN THE LAST COUPLE OF YEARS, SHOULD NOT OBSCURE THE FACT THAT FURTHER GAINS CAN STILL BE MADE. CONSERVATION IS AND WILL REMAIN AN IMPORTANT COMPONENT OF THE ENERGY RESOURCE AVAILABLE TO THE DECISION-MAKER.

SOLAR AND RENEWABLES ARE ANOTHER IMPORTANT ELEMENT OF OUR NATION'S ENERGY MIX. IN ADDITION TO THE SIGNIFICANT ONGOING DEVELOPMENTS IN AREAS SUCH AS SMALL SCALE HYDROPOWER AND BIOMASS, RESEARCH OVER THE PAST DECADE HAS INDICATED THAT RENEWABLES COULD BECOME A SUBSTANTIAL LONGER-TERM SUPPLY OPTION. WE BELIEVE THE GOVERNMENT'S RESPONSIBILITY IS TO FUND LONG-TERM, HIGH-RISK RESEARCH THAT MAY OTHERWISE NOT BE DONE IN THE PRIVATE SECTOR.

CONCLUSION

TODAY, THE OPPORTUNITIES TO SOLIDIFY AND BUILD ON ENERGY STABILITY AND ENERGY SECURITY HAVE NEVER BEEN GREATER. WE STAND AT THE DOORWAY OF A FUTURE THAT CAN BE SAFER, MORE PEACEFUL AND MORE PROSPEROUS THAN EVER BEFORE. UNDER PRESIDENT REAGAN'S LEADERSHIP, OUR NATION'S ECONOMY HAS BEEN REBUILT. OUR INTERNATIONAL ALLIANCES IS BEING STRENGTHENED. OUR ROLE AS AN INFLUENTIAL MEMBER IN THE WORLD COMMUNITY HAS BEEN RESTORED.

WE ARE POISED AS NEVER BEFORE TO MOVE INTO A FUTURE THAT OFFERS UNPRECEDENTED GROWTH AND PROSPERITY . . . AND THAT FUTURE DEPENDS ON ENERGY STRENGTH.

WE CANNOT SEPARATE A STRONG AMERICA FROM A SECURE AMERICA. . .AND OUR STRENGTH, AND THE STRENGTH OF FUTURE GENERATIONS, IS NOTED AS DEEPLY IN THE FULL USE OF OUR DOMESTIC ENERGY RESOURCES AS IT IS IN THE FULL PROTECTIVE STRENGTH OF OUR MILITARY.

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Mr. **Sharp**. Thank you very much, Mr. Secretary. We appreciate your help today and the first very broad issue which you have obviously addressed is the question with falling prices and therefore the disincentive on conservation as well as on the production side. Some would argue we are hearing voices as you are hearing voices for some kind of additional Government intervention whether it is to prop up the energy prices in general, to keep conservation and efficiencies, as well as to keep production investments being made, or whether it is to protect the domestic energy industry usually referring to the oil and gas industry, not only production but the refinery capacity. There are those voices that are asking us to take one or a variety of ways to intervene through taxes on energy, whether it is an import fee or tariffs or quotas or whatever those measures might be.

If I understand correctly from your testimony, the administration basically in its latest assessment just does not buy the notion that we need that kind of an intervention in the face of what you see in the future, is that correct?

Secretary **Herrington**. Yes. Worldwide, the refinery industry is operating below capacity and you have pressure on all markets to take additional refined products. If this country were to impose a tariff or a fee or some sort of import duty or protectionist measure, there obviously would be retaliations worldwide.

In addition, it also would make energy costs higher to American consumers at a time in our history when I think we have enough problems with our economy and our American industry due to some areas being over-regulated and other things that are put on them that are not put on their competitors.

So the administration would not like to see this put on at this time.

Mr. **Sharp**. Has the administration updated its analysis of what kinds of scenarios we might have in an emergency with the new configuration of refinery capacity? In other words, with the obvious elimination of a number of refineries in this country and elsewhere we don't have the same kind of configuration of refinery capacity that we did have, and the suggestion has been made to the committee and others that maybe there is a growing risk to the country that we won't have refinery capacity available if we have to rely upon the strategic petroleum reserve. We won't have the refineries with which to run it through or they will be in the wrong places or what-not.

What is the latest that the Department can tell us about that?

Secretary **Herrington**. We have a full refinery study underway with the results ready in August. There is no question that a number of refineries have gone out of business: some because of inefficiency, some because of worldwide overcapacity. It is hard to tell. But I anticipate full results on this.

We have also asked the National Petroleum Council to look at this issue.

Mr. **Sharp**. Do I understand though from your testimony that at least preliminarily the administration is opposed to any kind of action that would seek to protect existing refinery capacity from the forces of the marketplace that are out there now leading to this change?

Secretary **Herrington**. Yes.

Mr. **Sharp**. Obviously these studies are underway and they are not something that is going to be a secret that is suddenly going to be revealed, I mean the information is out there some place. Can we assume that unless there is some dramatic new fact or change in the marketplace that you don't anticipate recommending anything or is that something actively under study?

Secretary **Herrington**. I don't anticipate any change, Mr. Chairman. There are several factors underway that we obviously have to stay fluid on this issue. We are happy to concede that there is a certain point where national security enters into this issue and a sound domestic refinery industry is important to this country.

We have just concluded language with the Japanese that indicate that their market will be open to additional refined products commencing immediately. This is something that we have to keep watching.

There is new refinery capacity coming on in the Middle East and in North Africa. If it should come about that the Japanese do not allow any of that product into their markets, if the European Community should decide to cap their inputs at 7 or 10 percent, for instance, and it all ends up in this country, I think we ought to be prepared to look at that situation.

Mr. **Sharp**. That leads to my next question as to whether you had or if we could expect from this study any kind of listing of criteria by which you will be judging that marketplace to decide at what point the U.S. Government ought to intervene in order to protect refinery capacity in this country.

If I understand correctly, you have just listed one that you are going to be looking at and that is the behavior in Europe and Japan—that if they protect themselves, which would lead to making us the biggest dumping ground in the world, then I guess that might trigger a change in the attitude of the administration on that issue. Do you anticipate a further delineation of criteria like that or am I putting worries in your mouth?

Secretary **Herrington**. A little bit. I can't anticipate a change of position at this point. I am saying that we have to keep watching the issue. You simply cannot allow the domestic refinery industry, under all scenarios, to be damaged.

At this point, certainly on a preliminary basis, we do not see market factors that would indicate that any type of action is necessary. I think that is the important point I want to make so there is no question about it.

It is an ongoing problem we have to look at. Adjustments of the refining industry worldwide are something that all countries have been through, with the exception of the Japanese. The Japanese have not been through a refinery adjustment. In Europe and America, however, we have all been through some big adjustments, especially in France, where they have switched over to heavy use of nuclear power.

Once you go through these adjustments you get more efficient: the good operators stay in and the important thing is that consumer pay lower prices.

I think you have to be very careful before you step in, because of a perceived problem, and cause industry and individuals to have higher energy costs. It must be an actual problem.

Mr. **Sharp**. I appreciate that, Mr. Secretary, and I am not trying to press you into that kind of policy. I am trying to find a way of judging the claims that are made to us and I hope the Department will be in its study and analysis trying to help itself and us to know what kind of capacity we think we need, obviously, especially in an emergency situation—I think the obvious situation that we are concerned about—so that we can begin to judge these kinds of claims because I think the petitions for action by the Congress are likely to grow.

I don't know how effective they will be but I think they are likely to grow, and in trying to convince us to take action even over the heads of the administration, and if possible to act. I don't know what the situation is going to be.

I would hope that the administration would help in that August report, and give us and others some guideposts by which we can measure when we think that we may be getting into a risky situation that might warrant action. It may help us to ward off action. I guess I am telling you, if we have some sense of when it may be actually necessary.

I know those situations are very difficult to judge in advance but the more help that we can get on that, I think the more useful it will be to public policy making here on Capitol Hill as people will clearly rush in and claim the "sky is falling" because their own bailiwick is going under.

Secretary **Herrington**. As you pointed out, it is a difficult thing for us to determine. We will do our very best to address that question. It is just extremely hard to say that at so many million barrels per day the industry is viable and at so many million it is not viable and needs help.

As far as the administration is concerned, and my personal belief, the benefits from attempting an open market on this far outweigh an attempt to introduce protectionist measures for petroleum products. We need cooperation from our allies. We need cooperation from other worldwide markets. I think we are in a good position to get that. If we don't, maybe it is a different situation. It is the subject of ongoing analysis that needs to be done but, yes, we will try our best to address this issue.

Mr. **Sharp**. Thank you, Mr. Secretary. I am going to recognize my colleagues. I have some additional questions I want to come back to but I recognize first the gentleman from Ohio for 5 minutes.

Mr. **Oxley**. Thank you, Mr. Chairman. Mr. Secretary, the oil glut and the potential for lower energy costs would seem to me at least to call for a change in the policy as enunciated by the administration on page 16 of your statement that the administration had proposed a moratorium on filling the SPR.

Doesn't it make sense that during a period of lowering costs for crude oil that this would be the appropriate time to at least keep the flow to SPR equal if not higher than we are already doing?

Secretary **Herrington**. It is the old "catch-22": When prices are on the way up, everybody says, "Buy it quick. The price is going up. It is going to be very expensive." On the way down, they say, "Buy it now. It is never going any lower."

I am sure most of you know this, but the average cost of oil in the SPR today is around $26 to $27 per barrel. We bought a lot of it at $45 per barrel, and we bought some of it at a lot less. It is hard for me to pass judgment on that, the same as all of you, because we are all in the same boat. We are all trying to get the same thing.

In 1977, when a lot of thought went into this, the question was how much oil do you need in the ground. It was pretty much agreed through the experts that 90 days of net imports was about enough.

At that point our imports were pretty high. At the end of September 1985, we are going to have 108 days of net imports in the ground, 489 million barrels. What we have to decide is not whether it is a good idea to keep buying more SPR oil. In my estimation the decision should be do we have enough protection.

Probably the biggest problem that you ended are dealing with and is the budget deficit, the potential of $200 billion deficits again. n Do we have enough protection during this period of easing energy prices to let this go for a year to 3 years while we watch it?

I think the flexibility is built into the system so that if we get into an emergency situation, we could begin filling very rapidly and get benefits. As far as the bottom line, I think prices will drop further. Oil is inexpensive today, but it may get more inexpensive. I think we can look forward to that.

I think the overriding budget issue is more important than that marginal part of SPR.

Mr. OXLEY. At what point would the cost of crude oil be attractive to reactivate the purchases for SPR, $20, $24, $23?

Secretary HERRINGTON. Certainly, $20 per barrel oil would be a lot better than $26 per barrel oil. Our last purchase was $26.50 per barrel from the North Sea.

Mr. OXLEY. Does that mean then that we could anticipate a change in policy should the cost of crude slip to $20 per barrel?

Secretary HERRINGTON. I would not anticipate a change in policy. What we are proposing is a 3-year moratorium on the fill rate, because we have enough in the ground today. If you want more attractive oil prices, $20 is probably a good number, but I would not be able to sit here today and tell you that I would anticipate a change in policy.

It may be that Congress tells us that they don't feel that the fill rate is enough. I understand there are several bills like that. All I will say is that we will do whatever the Congress dictates concerning the fill rate. We are recommending that we have enough security at this point.

Mr. OXLEY. From what sources do we purchase the majority of the SPR currently?

Secretary HERRINGTON. On the open market and spot market. We had a standing contract with Mexico for 50,000 barrels per day. That ends at the end of September. Mexico has just lowered its price, as you saw this morning. The last purchase, the big purchase I saw, was North Sea Sweet crude at $26.50 per barrel. We will buy where we get the best price.

Mr. OXLEY. There are those who argue that during this time of lower cost for crude and during the time that we have surplus of oil on the market combined with some of the countries who have consistently been friendly toward us including Mexico that this would be a perfect blend of an opportunity to purchase oil from those countries while at the same time helping in their balance of payments with this country.

Is that a fair assessment and does that make good policy sense?

Secretary HERRINGTON. Like you, we have heard the argument, and we are hearing it daily. I am sure you are also hearing that the falling price of oil affects a country's balance of payments and its ability to repay loans. I would say that we shouldn't buy more SPR oil to prop up a balance-of-payments problem.

I think you make the decision whether you have sufficient security, and you balance it against your budget priorities and decide to go on that issue alone.

If we start buying crude oil from countries in order to either prop up their ability, repay loans or help with their balance of payments, I think that is the wrong motive.

Mr. OXLEY. So our two criteria should be security and affordability and not the effect on a third party country that may or may not have a debt service problem with this country. Is that a fair assessment of your position?

Secretary HERRINGTON. In my estimation that should be the prime criteria. The strategic petroleum reserve is an insurance policy. The Congress mandated that and we have filled it and we have operated it as such. It has no other purpose and I think we ought to stick to that. I think it is sound energy policy.

Mr. OXLEY. Mr. Secretary, you probably had an opportunity to read the article in the Washington Post just yesterday.

Secretary HERRINGTON. Yes.

Mr. OXLEY. It was about the energy situation. It was an interesting article in that not only did they point out the positive aspects of the oil situation currently and potentially lower prices but also the negative side.

From the potential negative side I was wondering if you would share with the committee your feelings as to the effect of the lowered prices on domestic companies, particularly those companies that are very highly leveraged in many cases, as a result of takeover attempts that have in some cases weakened many companies in the oil industry.

Secretary HERRINGTON. Comment on the merger?

Mr. OXLEY. Just to the extent that it seems to me that if you have companies currently who are in difficulty because of the potential takeovers, the Phillips situation or whatever it may be, where they find themselves much more leveraged than they were in the past and you add that to the potential of a free fall in oil prices worldwide, what does that do to those types of companies, and can, in fact, those companies continue to exist as they currently do and if they can't, what can be done to assuage some of their problems?

Secretary HERRINGTON. I think we have seen a major readjustment in the petroleum-producing countries. I don't think the mergers have driven that. I think the falling price has.

We have looked at this merger situation from every angle. The Council of Economic Advisers did a big study on this last year and the plain fact is that you have companies whose stock is undervalued on the market, which attracts takeover entities to try and take that company.

The argument is raised that what you are doing is hurting exploration if you take that capital out of the company in an attempted takeover. We have looked at every scenario on this and I am sure you have all met and been lobbied by several people on this issue.

We don't see any effect of mergers or takeovers on exploration. From every model we have looked at, the money probably would have gone toward diversification of that company; they would have bought a hotel or a telephone company or a transportation company in any case. That capital would have flown out of that company in some other way if not through a merger.

The fact is, we are watching a free market economy at work. You are watching publicly held companies who are subject to change in public ownership. We don't feel that any of this activity has hurt exploration.

Mr. **Oxley**. The point is though is it not that when you combine the potential problem of what has happened in some companies in terms of its debt to equity ratio and so forth along with what appears to be lowering prices, my real question is what effect is that going to have, that double whammy if you will, on some of those companies?

Secretary **Herrington**. It obviously is more difficult to operate. On the other side, you have seen an increase in stock value for public investors who bought stock in that company. I don't know where you balance the two off. There is no question that this merger activity that has taken place has tightened up the efficiency of a lot of companies that have not been subject to merger attempts.

I don't see a role for the Federal Government in here to do anything more than the antitrust activity.

Mr. **Sharp**. The time of the gentleman has expired.

Mr. **Oxley**. Thank you, Mr. Secretary. Thank you, Mr. Chairman.

Mr. **Sharp**. The gentleman from Oklahoma is recognized for 5 minutes.

Mr. **Synar**. Thank you, Mr. Chairman. John, let me ask you a couple of questions here. First of all, you have been using a statistic that the President's tax simplification plan would reduce domestic oil production only slightly in the near term through 1992. The statistic you are using is that it would reduce oil production by no more than 130,000 barrels of oil per day in 1988.

This may be accurate. We don't know because you have refused to give us the statistics or to provide to my subcommittee the backup data. Where is DOE's analysis?

Secretary **Herrington**. Sir, we don't ever want to be in the position of refusing. We will be happy to give you the analysis we have.

Mr. **Synar**. When will you be able to give us those numbers?

Secretary **Herrington**. How about forthwith?

Mr. **Synar**. All right. What does that mean? Today?

Secretary **Herrington**. As soon as we get back and can locate it.

Mr. SYNAR. All right.

Secretary HERRINGTON. The results of that started back when the tax plan was put up in May. We have run computer models every way you can imagine and I am not an absolute believer in the computer but we do show about 130,000 barrels per day decrease as a result of the tax planning in the short term. That is a maximum; it could be a lot less. We do see a leveling out after that.

Mr. SYNAR. My point is you may be absolutely right. What we need to do is look at how you all came up with that decision. If you could give us those statistics, it would be helpful.

Secretary HERRINGTON. We will be delighted to.

[The following information was received:]

PRELIMINARY ANALYSIS OF THE EFFECT OF TAX REFORM ON U.S. OIL PRODUCTION

The U.S. Department of Energy (DOE) is conducting a study of the effects of the President's tax proposal on domestic oil and gas drilling and production. This paper summarizes the analysis conducted to date and briefly discusses:

(a) specific tax provisions in current law that affect oil production;

(b) how the Reagan Administrations's tax proposal would change those provisions;

(c) the methodology used by the Department to estimate the effects of the tax proposal on U.S. oil exploration and production; and

(d) the preliminary results.

CURRENT TAX PROVISIONS AFFECTING OIL EXPLORATION AND PRODUCTION

Expensing of Intangible Drilling Costs

Independent oil companies can expense 100% of intangible drilling costs while integrated oil companies expense only 80%. For integrated companies the remaining 20% is capitalized and amortized over a three year period.

Percentage Depletion

Only independent oil producers may take percentage depletion. The percentage depletion deduction equals 15% of gross revenues from the property, subject to a limitation of 50% of net income from the property. In addition, the depletable quantity is limited to 1000 barrels of crude oil per day or 6 million cubic feet of natural gas per day, or any combination of the two within applicable limits.

A taxpayer may continue to claim percentage depletion after all the costs of depletable investments (depletable basis) have been recovered.

Cost Depletion

Cost depletion is restricted to the taxpayer's depletable investments.

Integrated producers must use cost depletion.

Independent producers compute depletion under the percentage and cost depletion methods each tax year and choose the larger of the two sums.

Depreciation

Independent and integrated producers depreciate tangible property placed in service after 1980 based on the Accelerated Cost Recovery System (ACRS) method.

A large proportion of their tangible assets are classified as five year property.

Investment Tax Credit

Independent and integrated producers may deduct 10% of qualified investments from their tax liability.

Corporate Income Tax Rate

Corporate producers are subject to a maximum rate of 46% on all taxable income in excess of $100,000.

Windfall Profit Tax

The Windfall Profit Tax is an excise tax imposed on domestic oil production.

Oil is classified into three tiers:

- tier one is oil once subject to federal price controls;
- tier two is oil from stripper wells;
- tier three is:

  (a) oil that is sold after May 31, 1979 from either an Outer Continental Shelf area for which the lease was entered into on or after Jan. 1, 1979 or an onshore property from which no production occurred in 1978,

  (b) tertiary oil, and

  (c) heavy oil.

The tax base is the difference between a statutory base price and the wellhead selling price, less a severance tax adjustment.

Tax rates applicable to tiers one and two are 70% and 60% respectively. Tertiary and heavy oil is taxed at a 30% rate; newly discovered tier three oil is taxed at 22.5%.

Independent producers are taxed at 50% (vs. 70%) for the first 1000 b/d of tier one production and are exempt from tax on stripper wells.

The thirty-three month phase-out of the Windfall Profit Tax Act of 1980 is scheduled to begin in 1991.

Corporate and Non-corporate Minimum Tax

Corporations treat the minimum tax as an "add on" minimum tax. It equals 15% of the amount by which the taxpayer's tax preference items exceed the greater of (a) $10,000 or (b) the regular corporate income tax for the taxable year. Tax preference items include tax credits claimed and deductions in excess of real costs.

Non-corporate taxpayers must treat the minimum tax as an "alternative minimum tax." The alternative minimum tax is equal to 20% of preference items claimed over an exemption amount plus adjusted income.

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PROPOSED CHANGES UNDER THE REAGAN TAX PROPOSAL

Phase-out of Percentage Depletion

Percentage depletion will be phased out over a five year period, beginning January 1, 1986, except for the independent, working interest share of oil from stripper wells. The 15% depletion rate for non-working interest oil will be reduced by 20% each year (e.g. the 1986 depletion rate will be 12%).

Producers claiming cost depletion would be permitted to adjust their depletable basis for inflation.

Repeal of ACRS Depreciation Method

The new Capital Cost Recovery System (CCRS) method would replace ACRS. Under CCRS, taxpayers would:

(a) adjust their depreciable basis for inflation, and

(b) reassign their property under new recovery classes.

Much of the depreciable property for oil and gas producers would have a six year, rather than a five year, recovery period.

Repeal of Investment Tax Credit

The 10% investment tax credit is eliminated.

Recapture of Excess Depreciation

Subject to certain exemptions, excess depreciation is the difference between depreciation taken under the ACRS method and depreciation that would have been allowed under an applicable straight line method.

The amount recaptured as taxable income equals 12% of excess depreciation for 1986 and 1987, and 16% for 1988.

Corporate Income Tax Rate

The corporate rate is lowered from 46% to 33% on all taxable income in excess of $75,000.

Corporate Minimum Tax

The Corporate minimum tax will be treated as an "alternative" minimum tax. The tax will be computed by taking 20% of all preference items plus taxable income. In addition, 8% of the intangible drilling costs will be treated as a preference item.

METHODOLOGY OF DOE'S ANALYSIS

Analytic Approach

DOE's analysis of the effect of tax reform on oil and gas drilling involves five major steps:

- Select a set of six "average" prospects from different oil producing regions in the U.S.
    - The six regions chosen were:
        - Mid Continent
        - Williston Basin
        - Gulf Coast Shallow
        - Gulf Coast Deep
        - Atlantic Deep
        - Beaufort Sea Shallow
    - Information from the Department of the Interior, and from industry sources was used to create a representative prospect for each region.
    - Each prospect was described in terms of its seismic, lease and drilling costs; ratio of intangible to tangible drilling costs; initial production levels, and decline rates; development and operating costs; and dry hole risks.

- o Estimate the tax proposal's effect on the net present value (NPV) of each prospect for both independent and integrated producers.[1]

  - A standard industry computer program was used to calculate the NPV of a prospect under current law for an integrated producer and for an independent producer.

  - The NPV for the same prospect was then calculated given the changes in tax rules.

- o Calculate a constant change in the real price of oil that is equivalent to the change in each property's NPV for both integrated and independent producers. This change is called the "NPV equivalent oil price effect" of a tax change.

- o Calculate the weighted average change in NPV equivalent oil price for each property. The weights are determined by the two alternative assumptions regarding the drilling share of independent versus integrated producers.

  - The tax proposal's effects will depend on the distribution of drilling between independents and integrated producers.

  - Given the high degree of uncertainty about how the proposal will affect the share of drilling between independents and integrated firms in the long-run, DOE used two alternative scenarios:

    1) No change in relative drilling shares -- independents continue to account for 85% of drilling activity.

    2) A complete reversal in relative drilling shares-- integrated producers' share increases from 15% to 85% between 1985 and 1995.

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[1] DOE's analysis is based on the effect of proposed tax changes on the net present value (NPV) of domestic drilling prospects, rather than the effect of tax reform on the cash flow of individual companies. The Department believes that the NPV approach provides the most accurate estimate of the effects of tax changes on total U.S. oil exploration and production.

- o interpolate the effect on domestic oil production, creating a range of possible effects based on DRI's analysis of the impact of a $7.00 NPV equivalent oil price change.
  - A "high" price path was calculated based on the property showing the greatest change in NPV, and the assumption that relative drilling shares would not change.
  - The "low" price path corresponds to the property showing the smallest change in NPV, and the assumption that drilling shares would reverse.

Limitations of DOE Tax Analysis

- o Economic and geological diversity of offshore and onshore wells precludes modeling all types of properties. We attempted to reflect this diversity in our sample, but the sample is limited.

- o The analysis does not explicitly include the effects of corporate and non-corporate minimum taxes, the quantity limit for percentage depletion, and the foreign tax credit. However, separate analysis confirmed that these proposed changes would not have a major effect on domestic oil and gas production.
  - Corporate and non-corporate minimum taxes and the quantity limit for percentage depletion were analyzed separately and did not affect our results significantly.
  - The foreign tax credit is a determinant of overseas investment, but not a direct determinant of domestic investment in oil and gas production.

- o A number of provisions in the tax reform proposal will affect the cost of debt financing. Some provisions will increase the cost of borrowing, while other provisions will encourage debt financing. DOE's analysis assumes that these provisions will cause no significant net change in the effective, after-tax interest rates paid by domestic oil producers. For example:
  - Allowing deductions of dividend payments will encourage debt financing.
  - Limiting interest deductions will make borrowing less attractive.

- The DOE analysis of the tax proposal's effect on a property's net present value uses a partial equilibrium approach. Macroeconomic feedback effects on the value of a property, such as change in interest rates and/or oil demand and price could lead to second order effects. However, we believe these effects will be slight.

EFFECTS OF TAX REFORM ON DRILLING AND PRODUCTION

- Table 1 shows the NPV equivalent oil price changes for integrated and independent companies. Tables 2 and 3 show the effect these changes could have on domestic oil production.

- The estimates in Table 2 do not reflect the provision which retains percentage depletion for stripper wells owned by independent producers. In a separate analysis, the Department estimated that allowing percentage depletion for stripper wells owned by independents would reduce the estimated decline in production by 16 to 58 thousand b/d. Table 3 shows the range of expected effects of tax reform when incorporating the effects of retaining percentage depletion for the working interest in stripper wells.

- The tax reform proposal will cause a reduction in the independents' tax advantages relative to integrated oil companies, i.e. phase-out of the percentage depletion allowance on non-stripper wells. Since integrated producers and independent producers compete for available drilling prospects, over time one would expect integrated companies to expand their activities to prospects that become unattractive to independents.

- The effect on U.S. oil production would decline as integrated oil companies drill exploration prospects no longer attractive to independents. This partially offsets the negative impact of the tax changes on exploration by independent oil companies.

- In the near term, from 1986 to 1992, the tax reform plan may cause a small reduction in domestic oil production. We estimate that in 1986 oil production coould be reduced by up to 130,000 barrels per day. This moderate effect would diminish over time as the industry adjusts to the new tax provisions. After a 5 to 7 year transition period, there would be no measurable effect on U.S. oil production.

Table 1

NPV Equivalent Wellhead Oil Price Changes

	Integrated Companies	Independent Companies
Oklahoma	+$0.60	-$3.10
Williston	+$1.30	-$2.12
Beaufort Sea	+$0.24	-$1.56
Gulf Shallow	+$0.59	-$2.27
Gulf Deep	+$0.47	-$2.05
Atlantic Deep	+$0.33	-$1.66

Table 2

Production Response
(B/D)

	Minimum Case	Maximum Case
1988	-70,000	-150,000
1990	-44,000	-150,000
1995	+38,000	-150,000
2000	+46,000	-150,000

Table 3

Production Response with Stripper Production
(16,000 to 58,000)
(B/D)

	Minimum Case	Maximum Case
1988	-12,000	-134,000
1990	+14,000	-134,000
1995	+96,000	-134,000
2000	+104,000	-134,000

Mr. **Synar**. We talk about an energy crisis in this country when oil prices go up and all of us probably were in that ball park, but I might make the argument, and I think very persuasively, that we are facing an energy crisis as the price of oil goes down.

For example, I don't think it would be exaggerating to say that if the price hits $17 per barrel, the Bank of America would find themselves in serious financial shape and if the price of oil hits $16 per barrel, Citibank of America would find itself in serious shape.

Without even sounding parochial I cannot even imagine the impact that a $20 per barrel oil would have on Oklahoma if not a $15 per barrel of oil.

The chairman of the committee a few minutes ago tried to get you to define a point of problems. When do you think that you all have a problem on your hands? You were a little bit evasive on that. When do you think we have a problem if the oil prices continue to drop? Do you have a price that you think that might be at?

Secretary **Herrington**. I do not and I will tell you why I don't. I know that your question is aiming at a help for the price. I am believer——

Mr. **Synar**. No, no, no. You read me wrong. You read me wrong on that. I am not looking for help. I am just looking to see whether DOE has a point defined where they feel like they have to get involved.

Secretary **Herrington**. No.

Mr. **Synar**. Are you thinking about it?

Secretary **Herrington**. We think about this every day and a lot of research is done on it but we do not see any reason to walk away from the free market principle. You also saw in that article this weekend——

Mr. **Synar**. Then John, what you are telling me is you are prepared to let Bank of America or Citibank or the other banks that are heavily involved in energy loans in Oklahoma, you are prepared to let the dice roll on the impact of the dropping energy price without intervening?

Secretary **Herrington**. I don't think your question concerns letting the dice roll.

Mr. **Synar**. Well, you don't have a plan of action or a point defined where you think you all may have to take a serious look at this.

Secretary **Herrington**. We are taking a serious look at it today.

Mr. **Synar**. So the price at $25 or $26 per barrel concerns you?

Secretary **Herrington**. $15 per barrel oil would not be the cause of the collapse of the Bank of America or Chase Manhattan. I don't think you can make that argument. It might contribute to other factors, but it is also going to stimulate a lot of industrial activity in this country—growth of business, jobs, lower energy costs—that is going to produce jobs, and in other industries, tax revenue.

Mr. **Synar**. Do you all have those plans and those statistics to back that up?

Secretary **Herrington**. I do not have them with me today.

Mr. **Synar**. Would you provide those for the subcommittee?

Secretary **Herrington**. If we have them, wait just 1 second.

[Secretary Herrington and colleagues conferring off the record.]

Mr. **Synar**. You said you had them.

Secretary **Herrington**. Yes. That study was a year and a half ago and we do have it.

[The report referred to, "Effects of Lower World Oil Prices," has been retained in subcommittee files.]

Mr. **Synar**. All right. Let me ask you a couple of other ones real quick. You are familiar with H.R. 935 introduced by Chairman Sharp and myself with respect to the Synthetic Fuels Corporation.

Secretary **Herrington**. Yes, sir; I am.

Mr. **Synar**. What is the administration's position on that bill?

Secretary **Herrington**. This is the bill that would abolish the Synfuels Corporation and turn $500 million over to the Department of Energy for synthetic fuel?

Mr. **Synar**. Right.

Secretary **Herrington**. You want a yes or no on this?

Mr. **Synar**. Yes; I do.

Mr. **Sharp**. If it were to be a "no" we would rather have a "maybe."

Secretary **Herrington**. You have a way with words.

I do not support the passage of that bill and I could explain, please.

Mr. **Synar**. Do you support smaller scale, less costly programs?

Secretary **Herrington**. I would like to tell you what I do support.

Mr. **Synar**. All right. What do you support?

Secretary **Herrington**. I support the compromise that was reached between OMB and the Congress last year for the reduction of the amount that Synfuels Corporation can spend, from $20 billion down to $8 billion and included in that the so-called $750 million clean coal——

Mr. **Synar**. So the argument that you made with respect to the strategic petroleum reserve does not apply to the Synthetic Fuels Corporation since the administration favors the much more expensive program than H.R. 935, does it?

Secretary **Herrington**. I would like to meet the commitments of the administration in its negotiations with Congress; as an administration official, I plan on doing that to the best of my ability.

Mr. **Synar**. All right. One final question if I could. Where do the negotiations stand presently with Great Plains? Is it true that DOE has agreed to provide the sponsors with a loan restructuring that in effect would provide Great Plains' partners with a $673 million interest-free loan?

Secretary **Herrington**. First of all, the negotiations are continuing on a daily basis. They are even meeting today—probably as we speak. The fact is that the Department of Energy is on the hook to the Federal Financing Bank [FFB] for $1.5 billion should Great Plains fail.

If the partners should walk out and we get that plant back and have to pay $1.5 billion, we are going to be back up here asking you for some money to operate it and meet our obligations?

In light of that scenario, we have made a decision to support continued operation of that plant, provided that we can get a meaningful period of operation so at least we can get some knowledge out of the operation. As you know, it is up, finished and ready to go, we have indicated our willingness to contribute $673 million, which is our set-aside reserve against the contingent liability should they go bankrupt. That is the only extent to which we are committed.

Mr. **Synar**. John, that is a good answer. Does that include the option of a $673 million dollar interest-free loan?

Secretary **Herrington**. I can't tell you about the interest rate. I believe the structure is a loan, but there are about three or four scenarios on the negotiating table. They are going to the SFC Board of Directors tomorrow to see what they will accept. The only way that we could contribute our reserve fund, according to counsel, would be if there is a default in the FFB loan that is currently in effect.

That is the only way we can contribute that under $673 million current law. If there is a default under the law, which would trigger our contribution, the partners may not want to go forward, because that triggers, in addition, a recapture of tax writeoffs to the tune of about $350 million.

It is a very difficult situation and it is by no means settled.

Mr. **Synar**. Thank you. Thank you, Mr. Chairman.

Mr. **Sharp**. Thank you. The gentleman from New Mexico, Mr. Richardson, is recognized for 5 minutes.

Mr. **Richardson**. Thank you very much, Mr. Chairman. Mr. Secretary, you in your statement on page 8 you talked about natural gas decontrol and since we are talking about energy security, Congressman Dannemeyer and I have a bill that would decontrol natural gas. If I read your statement correctly we believe the prices would decline and supplies would increase further if more complete decontrol existed. We have advocated this remedial action but no bill has yet passed the Congress.

My question is a simple one like Mr. Synar's. Does the administration support the Richardson-Dannemeyer bill or do you plan to have one on your own or when do we expect a comprehensive statement on the part of the administration on natural gas decontrol?

Secretary **Herrington**. Sir, I regret to say I am not fully familiar with all of the terms of Richardson-Dannemeyer. From what I have heard, it is a very sound bill.

The Department of Energy and the administration support total deregulation of natural gas. We would like to see it happen as soon as possible. Whether it is that particular bill, or whether we can craft an alternative that we would prefer, I can't tell you today. In principle, we support your bill. We think it is a good idea. At such time as we think that there is sufficient support in the Congress, we would like to get behind it.

Mr. **Richardson**. We have 10 cosponsors on this subcommittee. We hope to pick up the chairman some time next week.

I would like to encourage you, Mr. Secretary, we have worked very hard on this bill and it is quite comprehensive, for you to endorse it rather than I think keep us waiting that you have your own bill. Is that a possibility that you would have your own bill and you just haven't gotten to that?

Secretary **Herrington**. Sir, I really have not gotten to it. I would not like to give that away at this point. It is very possible that your bill encompasses everything that we could ever want, but I would like the option of looking at it.

Mr. Richardson. All right. I won't press you any further. I think that if we don't do decontrol perhaps a modicum of legislation such as contract carriage and repeal of the Fuel Use Act. I recognize the political realities and I want to work very closely with the chairman on this issue so we hope that you can formulate your final position.

Mr. Secretary, the issue of nuclear power and uranium, this broad section of energy security means just about anything. I passed an amendment to the foreign aid bill last week which terminated coal and uranium imports from South Africa.

You will see continued legislation in this energy area especially from many of us in Western States and I guess my question is, what is the administration's official policy on nuclear power and concurrently, what do you see in terms of the Department of Energy changing the definition of the viability of the uranium industry which as you know is flat on its back? When can we see a determination by DOE to construct a policy that will at least be respectful towards domestic producers?

Secretary Herrington. You have several questions here, sir. The administration's policy toward nuclear power is that we are in favor of it. We believe that we have reached the stage in this important energy source that it can be developed in a safe and environmentally sensitive way.

I think there are a lot of points that I could take a lot of time to discuss with you on the record here that lead me to that conclusion. I don't want to take a lot of time on it, but the nuclear power option for this country has to be one of the main legs that we use to pass through the year 2000, along with learning to burn coal cleanly and continuing to improve conservation and efficiency, if we are going to get off oil dependence in the long run.

We have been talking about falling oil prices and secure oil markets here today. If we do not address this particular area, we are not meeting our obligations to the generations that will follow us. Many countries have a big success story today on in nuclear power. We can take their examples do just as well as any country in the world.

With respect to the uranium viability study, I do not want to wait, as we did last year, for a late policy statement. I would hope to have that viability study finished and released shortly after Labor Day, the first 2 weeks in September.

I have seen many figures and findings in rough drafts. I do not have a clue to the eventual conclusion, but a lot of hard work has gone into it, I would say that September would see our viability study.

Mr. Richardson. I commend you. That is the most I have ever gotten from the Agency. I hope that you can complete it by then. I think it is critical.

Let me just give you a clue. The industry is not viable and I think you will find that out as you complete your study.

Mr. Secretary, in the last question you mentioned you attended an IEA meeting recently and 20 countries participated and Mexico has recently decided to lower its price of oil, I think, by $1.

I don't know if you discussed this earlier in your opening testimony but I am interested in your long range views as to the energy security situation in this country based on whatever you perceive OPEC is doing and these countries like Mexico that are splitting off from OPEC. Do you see that increasing? Are we in good shape at the IEA? You mentioned the Japanese and you are taking some constructive steps and that is the first that I have heard in a long time for them doing anything positive when it relates to trade with our country.

Secretary HERRINGTON. As you know, Mexico has followed OPEC pricing very closely in an attempt to go along with them, although Mexico is not a member of OPEC.

I don't claim to have a crystal ball. In my estimation, however there has never been a cartel in history that has been viable without the cooperation of the consumers.

You have a lot of historical data on the coffee cartel and the tin cartel—we studied them all in college economics and graduate business school—and that type of thing, but they have never made it successfully without consumers coming along and saying, "All right. We will help you fix the price."

If we avoid doing that, we are going to get low cost and abundant petroleum supplies in the future years. We are in for a good time.

What we are seeing is free market forces which lower energy costs because of decreases in consumption. That is the result of the good work that we have done in the last 10 years as well as an increase in non-OPEC production. Our situation is excellent at this point. It is time to decide where to go from here.

Let's look ahead 15 to 20 years, because that is what it takes to develop viable alternative sources of energy. That is also the period in which we ought to be thinking about how nuclear power fits into our long-term plans. Now is a good time to think, plan and act while we are comfortable.

Mr. RICHARDSON. Mr. Chairman, could I ask one last question?

Mr. SHARP. Surely.

Mr. RICHARDSON. Mr. Secretary, you mentioned the administration's position on mergers. You were quite clear on that. I am interested in the administration's position or your position in another kind of merger and it is kind of called a unilateral merger, corporate takeover, raiding of energy and many other companies.

I have introduced in the House a junk bonds bill moratorium. My specific interest is clear, Unocal and Phillips Petroleum, the raids by Mr. Pickens and others. I wondered if the administration's opposition to merger legislation extended also to opposition to the sale of junk bonds that I have introduced legislation on here in the House?

Secretary HERRINGTON. I have personal feelings on the junk bond issue, simply from a passing reading of things. I don't know that it is something that I would care to comment on. I am not sure that I know enough about it.

Basically, we have looked at the effects of mergers. The method of financing mergers is something a little out of the realm of my expertise, except as a private citizen.

Mr. RICHARDSON. This does impact, I think, on our energy future and security. It certainly impacts on a lot of jobs and I would hope that you weigh in and I don't know if this is directly your jurisdiction but when we are talking about energy security and the possi-

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bility that this might happen in a lot of areas and the dislocations that this has caused in many parts of the country in the name of better management, Mr. Pickens has made an assault on many companies I think in the name of the free market. I don't know if that has been a productive effort.

I want to see the free market flow but when I see this threatening employment and many other energy issues I react. So I think that is the reason for my legislation but I commend you for your answers and for your quick grasp of your department and I look forward to working with you.

Thank you, Mr. Chairman.

Secretary HERRINGTON. Thank you.

Mr. SHARP. Mr. Secretary, as you can tell from a variety of the questions the trade issue has always been very important on oil but it is becoming more and more prominent and interestingly the same kind of language of level playing field and all of those buzz words in trading relations that affect everything from autos to textiles is now being used in the energy area with the protectionist pressures I think very clearly growing in this area whether it is coal, uranium, product of oil, refined products or whatever it is.

So let me just go back a little bit to that meeting you were just at and see if you can give us a little better sense of what specifically is going to happen or what specifically was pledged. I guess two things that I am interested in is one, did the Japanese indicate that they planned to by volume increase or begin, I guess, importing various refined products? Or were they going to substantially reduce the tariff that they have on it? Was the Common Market which has a tariff that is much higher than ours but not nearly as high as the Japanese as I understand it, are they going to reduce their tariff?

Do we have some indications and how is this going to be monitored? Can you give me any information on this?

Secretary HERRINGTON. As you know, the Japanese do not import gasoline or kerosene. There are a lot of reasons, for this, concerning price, political purposes and other issues in their society. With new refinery capacity coming on line in the Middle East and North Africa, in addition to underutilization of existing capacity worldwide we simply have to have the Japanese market open. They have to share with the rest of the world the burdens of buying petroleum product.

That was the premise we worked from. The IEA has 21 member countries, most of whom are consumers of oil and oil products. If you remember when OPEC began its schemes, Henry Kissinger was the author of the IEA organizational concept, with the help of a number of you.

The Japanese have not supported a free market in petroleum products. There were 20 other countries at the IEA that favored open and free markets for petroleum products.

Petroleum is a unique product; You can argue national security, and you can argue your geographical location in the world for sources of supply. With other products, you can argue your heritage or the national character, but you can't make any of those arguments on petroleum.

Therefore, any attempt to restrict the importation of petroleum by any country is pure protectionism and they can't beat that argument. When you find a country restricting its market, you have the purest form of protectionism.

If we can't get the Japanese to agree at an international organization such as IEA to cooperate with 20 other countries against their one vote, on a product that nobody can reasonably dispute is a pure protectionism situation, then we probably can't get them to move in any area.

We argued long and hard and I think we were successful in adopting the ministerial communique. They signed it. I want to read to you two paragraphs that I think are important. They are going to have a very tough time getting out of this language.

Page 5 of the communique, which I would make part of the record if any of you gentleman would care to see it, reads: "The ministers agreed to pursue expeditiously"—and that is a very important word "—a common approach whereby they would maintain or create conditions such that imported refined products could go to the markets of different IEA countries and regions on the basis of supply and demand as determined by market forces without distortions." "Distortions" is an important word—expeditiously without distortions.

That is free market language and they signed it. In the next paragraph, "The ministers agreed that the IEA will continue to closely monitor developments in this area"—and that means next month and on an ongoing basis "as to permit assessment of the extent to which such a common approach is carried out in practical terms and on a timely basis."

If the Japanese don't follow through with this language, it is going to be difficult for them to talk their way out of it. I think this is a good bell weather. It is an indicator of where we are going in this particular area.

After talking with Minister Murata, I fully expect the Japanese to live up to this totally. I think this market will open.

Mr. SHARP. Can you give me some idea of when you and other ministers that were there would believe that we ought to have some evidence that would show us that they and others in the IEA are living up to the expeditious requirement? Is it 1 month or 60 days or 3 months—a reasonable period in which we ought to be able to ascertain some kind of change in policy and some evidence?

Secretary HERRINGTON. My feeling would be that the process should begin immediately. We ought to see results by the end of this year. If we don't, we ought to be concerned.

Mr. SHARP. I would appreciate it, Mr. Secretary, and perhaps this is not to criticize you but to reinforce what you are doing, but if you would report back to us in about 60 days as to what evidence you have received from the Japanese Government that there is in fact a change underway that will be reflected.

I think it will be very important to the consideration of things on Capitol Hill that there are clear indications out there because in everything from tax policy to deficit policy which may entail import fees and things like that come up on those kinds of considerations, this may become a very relevant issue as to whether or not others are playing by the same rules.

So I would hope you would keep us apprised of the evidence because we want to work with you in helping to see that that comes about.

Secretary **Herrington**. We would be happy to do that. As you pointed out, playing by the same rules is the essence of the free market; if we are having a free market but each of us is playing under different rules, it is not free, or at least it is not fair.

We will be happy to provide any information we get from the IEA, who will be monitoring on an aggressive basis, and any other information we receive concerning this particular issue.

[Testimony resumes on p. 275.]

[The following material was received:]

United States Government Department of Energy

memorandum

DATE

REPLY TO ATTN OF IE-1

SUBJECT INFORMATION: Japanese Recommendations on Petroleum Product Imports

TO The Secretary

We have received a copy of the recommendations on petroleum product imports released to MITI by the Special Sub-committee of the Japanese Petroleum Council in Tokyo on September 12. This is the report the Japanese had earlier agreed to accelerate. The recommendations to MITI contained in this report represent the first step in the Japanese process of opening its domestic market to the importation of petroleum products.

The Sub-committee report recommends to MITI that:

- Decisive steps should be taken expeditiously to commence the importation of gasoline, kerosine, and gas oil (which have not been imported so far).
- Japanese refining capacity be reduced by an additional 0.7 to 1.0 million barrels per day.
- The importation of products be encouraged by those companies who can:
  - assure a secure supply of products through flexible choice or combination between domestically refined products and imported products;
  - make sufficient adjustments to the quality of the products imported; and
  - securely hold enough stock of products in accordance with the Petroleum Stockpiling Law.

The set of requirements for importers contained in the Sub-committee's recommendations, if adopted by MITI, will apparently limit the universe of importers to those firms with domestic refining capability within Japan, i.e., the group most likely to be harmed by imports. In addition, no specific timetable is mentioned with regard to MITI's implementation of the Sub-committee's recommendations.

We do not at this time have any information about the administrative arrangements MITI is likely to adopt to facilitate implementation of the Sub-committee's recommendations. Therefore we know little about the timing of implementation or the quantity of

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imports likely to be permitted. Nevertheless, the conclusions of the Sub-committee's report should be welcomed as a positive, first step forward.

I will be meeting with senior officials from MITI in Washington next week and I intend to continue to press our case for expeditious and transparent implementation. In addition, I will be talking to Frau Steeg this weekend about implementation of an IEA monitoring program designed to keep the heat on. I will keep you informed.

George J. Bradley, Jr.
Acting Assistant Secretary for
International Affairs and
Energy Emergencies

cc: Deputy Secretary
Under Secretary

ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT

INTERNATIONAL ENERGY AGENCY

DRAFT
RESTRICTED

Paris, drafted: September 1985
dist:

MONITORING OF OIL PRODUCTS TRADE AND RELATED DEVELOPMENTS

(Note by the Secretariat)

1. At the Meeting of the IEA Governing Board at Ministerial level held on 9 July, 1985 Ministers "agreed to pursue expeditiously a common approach whereby they would maintain or create conditions such that imported refined products could go to the markets of the different IEA countries and regions on the basis of supply and demand as determined by market forces without distortions". They also agreed that the IEA should closely monitor developments in this area so as to permit assessment of the extent to which such a common approach is carried out in practical terms on a timely basis. [IEA/GB(85)46]

2. The Secretariat has now developed an Oil Products Trade Monitoring Procedure, an outline of which is submitted herewith. In brief, the procedure entails the monitoring of three interrelated aspects:

i) the development of trade volumes as such, and their importance relative to consumption;

ii) government measures affecting oil products trade through import tariffs and/or quotas, or through any other measures or policies;

iii) refinery capacity trends.

3. The following information is presented in this document:

I Overview of main trade and consumption data for 1973-1985. Data for 1985 in this version are for January-June 1985, as these are now available for each OECD country. Future versions would of course be updated to include latest available data from OECD/IEA Monthly Oil Statistics (MOS). This would imply that, for example, a similar overview in January 1985 could include final MOS data covering January-September 1985.

II Overview of trade measures affecting oil products. Such overviews have been presented before, most recently in document IEA/SOM(85)23. The information comes from a variety of sources, but the Secretariat will largely depend upon Member countries to provide it with up-to-date information.

III Overview of refinery capacity trends. This contains a set of tables on capacity estimates (1973-1980-1985). These tables also relate capacity to consumption and to refinery output. Consumption and output data are based on Monthly Oil Statistics now available for January-June 1985.

4. The Secretariat suggests that it may initially be appropriate to present similar overviews once every three months. A preliminary question, however, is whether this type of reporting and detail is seen as an adequate implementation of the task given to the Secretariat to monitor oil products trade and related developments.

[redacted]

I. OVERVIEW OF TRADE AND CONSUMPTION DATA

This overview contains two tables for each OECD Member country:

A. Table on oil product supply and disposal for 1973,1980,1984 and 1985 (in so far as data are available from Monthly Oil Statistics). Definitions of products, trade flows and regions are the same as those used in other OECD/IEA oil statistics. Data for 1973 and 1980 are from Annual Oil Statistics, other data are from Monthly Oil Statistics (which are published by OECD/IEA as "Quarterly Oil Statistics"). The table is designed to give a good indication of the main trends, not to be a complete balance of oil flows, so stock changes, statistical differences etc., are not shown separately. Table A is available for each country, main regions and for the OECD area as a whole.

B. Table on consumption and product trade by product for 1973-1985 (as available), showing also the percentage share of net imports in consumption. Data are from Annual Oil Statistics for 1978-1983 and from Monthly Oil Statistics for subsequent periods. Definitions used are the same as those used in those OECD/IEA statistics and in Tables A (see above). Table B is, for technical reasons, not available for OECD regions or the OECD as a whole.

US/Japan Working Group on Energy

Experts' Report

The US/Japan Energy Experts Group met in Anchorage September 14/15, 1985 to prepare for the sixth meeting of the US/Japan Energy Working Group, which will meet in Washington September 20, 1985. The objective of the meeting was to review progress in implementing the November 11, 1983 Joint Statement on Energy Cooperation, agreed to by President Reagan and Prime Minister Nakasone, and to consider ways of exploiting fully the possibilities for mutually beneficial energy trade between the two countries.

1. Global Energy Situation

The US and Japan exchanged views on the world energy situation and their respective national energy situations. While recognizing the inherent difficulty of making long-term forecasts, both sides shared similar views on future trends in energy supply and demand. They welcomed the stimulus that the current oil market situation, characterized by a substantial excess of supply over demand, could give to economic growth.

However, both sides agreed that oil prices should be set by the marketplace, and that sharp, erratic price movements in either direction are undesirable. Both sides further agreed that oil markets are likely to tighten in the 1990s and that prudent government policy requires continued efforts to diversify sources of supply, maintain emergency preparedness and promote alternative energy sources. In this regard, the US stated that its enormous reserves of coal and natural gas could be a secure and reliable source of supply for Japan. The US expressed the hope it could increase its share of Japanese energy requirements to 10% from 4% by 2000.

II. Oil

The US and Japan exchanged views on oil issues of particular concern to the two countries.

(a) Export of Alaskan Oil

Japan re-iterated its continuing interest in Alaskan oil if it:

- were available on commercial terms;
- was not restricted to export on US ships;
- would continue to be exported in a supply disruption.

Japan asked that the US take vigorous action to lift restrictions on the export of Alaskan crude oil and expressed interest in having the US move quickly to make Cook Inlet oil available for export to potential Japanese purchasers. The US re-affirmed that the Administration favors in principle allowing the export of Alaskan crude oil on commercial terms and without onerous conditions. Efforts to this end are continuing, particularly for Cook Inlet oil.

(b) Oil Stocks

Both sides agreed on the valuable role oil stocks have in maintaining energy security. Japan noted it intends to continue, despite a difficult budgetary situation, to increase its stocks to meet its 1988 target of 30 million kiloliters. The US, noting that the SPR alone contains over 100 days of US net oil imports, expressed the strong hope that Japan would find means to increase its strategic stockpile beyond the JFY1988 target. Japan stated its hope that the present moratorium on filling the SPR would be temporary.

(c) Oil Products

Japan briefed the group on the situation in its domestic product market, particularly in light of the agreement reached at the July 9 IEA Ministerial regarding trade in oil products. The just released interim report of the National Petroleum Council recommends that the Government should take decisive steps expeditiously to commence the importation of gasoline, kerosene and gas oil into the Japanese market, which have not been imported so far.

While noting there were strong objections from certain sectors of the Japanese oil industry to these recomendations, Japan indicated that the Government would honor the NPC report and was considering what action was necessary to implement it in a transparent and timely manner.

The US expressed its appreciation for the steps Japan is taking to implement the IEA agreement on trade in oil products, particularly the expeditious preparation and release of the NPC report. The US side found the tone and content of what it had seen of the NPC report to be in line with the agreement reached in Paris July 9. On timing, visible action to commence expeditiously the importation of the products concerned into the Japanese market in 1985 would enable Japan to obtain full benefit of international recognition of the NPC report.

Further, the US side strongly urged Japan, even if legislation would eventually be needed to implement the NPC recomendations, to take immediate interim administrative measures to this end. Japan stated that it would bring the US remarks to the attention of appropriate Japanese authorities. The US side expressed the expectation that the specific measures would be fully compatible with the IEA Ministerial communique and GATT provisions.

III. Coal

While expressing appreciation for the efforts made by both sides, the US expressed its keen disappointment with the lack of results so far in implementing the coal trade provisions of the Joint Policy Statement. It noted that US coal exports to Japan have declined steadily over the past four years. Present trends indicate that metallurgical coal exports to Japan are expected to be 20% less in 1985 than in 1984 and are now around half the level when the bilateral energy consultations began. Steam coal exports to Japan will increase in 1985. Japan emphasized its efforts to implement the Joint Policy Statement; however it noted a declining demand for metallurgical coal and an excess of contracted supply over anticipated demand. It noted the lower growth rate for electricity and consequently the need for fewer coal-fired power plants. Coal needs for current and planned power plants are fully contracted; new opportunities for competitively priced US steam coal exports could emerge after the early 1990s. Both sides agreed they would encourage their respective private sectors' efforts to further expand coal trade, for the mutual benefit of both countries.

On the Beluga project, both sides noted that there had been a detailed study between the private sectors of both countries, and hoped that a fruitful conclusion would emerge.

On the Pecten project, both sides noted that discussion on the pre-feasibility study is continuing between the private sectors in both countries.

On the US proposal for a model sub-bituminous coal 2000MW power plant, Japan said that the commercial use of sub-bituminous coal would require further technical and economic studies with a view to the long-term prospects, and that it would watch the implementation and result of joint studies such as the Beluga project.

Both sides stressed the importance of the promotion of mutual understanding between the private sectors of both countries, and hoped that there would be fruitful discussions between them through the Standing Technical Committee (STC) and other channels.

Japan stated it has begun to examine the eighth coal plan, starting from1987. The US expressed its desire to be kept informed.

IV. Natural Gas

The two sides reviewed the present situation and prospects for trade in natural gas between the two countries. The US stated that with its enormous gas reserves, Alaska could continue, and increase, its role as an important, reliable supplier of natural gas to Japan. Both sides expressed satisfaction that the private sectors in the US and Japan had begun a pre-feasibility study of North Slope natural gas and hoped that work would proceed expeditiously. The US recalled the statement of the last experts' group meeting that "all projects will be judged on an equal basis and that commercial competition will govern purchasing decisions." In this regard, the US side expressed the hope that competitive sources in IEA countries would be fully evaluated before supply contracts for Sakhalin gas are signed. Japan stated that all potential LNG projects will be treated on an equal basis and will have to prove their commercial viability.

* *

The US took the occasion of the Experts' meeting to raise the following points on uranium enrichment services:

- enrichment services are a vital element of energy trade between the two countries;
- increased exports of SWU to Japan will help the trade balance between the two countries while, in the 1990s, enabling Japan to benefit from the latest enrichment technology;
- Within two months, DOE will be ready to make new marketing proposals to Japanese utilities for uncommitted enrichment needs beginning in 1989. The US side hopes that DOE will be able to present its proposals before commitments to other suppliers are made.

September 12,1985
Petroleum Department
MITI

1.The Special Sub-committee of the Petroleum Council,led by Mr.Inaba.(The Council's Chairman is Mr. Enjoji , Advisor to Japan Economic Journal) , held 15 sessions of energetic discussions since last April and submitted a report to MITI today .

2.In this report the Special Sub-committee gave recommendations to MITI on oil industry policies with regard to it's further internationalization and restructuring of the industry.

The major points of the recommendations are the following.

(1)Although Japan is one of the largest importers of oil products in the world, gasoline has not been imported so far. However , in view of the various changes of circumstances concerning the oil industry , the decisive steps should be taken to commence the importation of gasoline together with the necessary arrangements to facilitate importation.

(2)In view of the current over-capacity of oil refineries , disposal of surplus facilities equivalent to the production capacity of 700 thousand to 1 million B/D is necessary. Through this action , together with the 1 million B/D disposal carried out in 1983 , estimated production capacity will be reduced by about 30% compared with that of before the second oil crisis.

3.In accordance with these recommendations , MITI will start to examine to formulate necessary and concrete arrangements to facilitate the importation of gasoline.

MITI will also begins to work to establish the policy for the disposal of surplus refining facilities , etc.

Report of the Special Sub-committee of the Petroleum Council (outline)

September 12, 1985

I. Internationalization of the oil industry through increasing products import

1. The basic structure of the oil industry and the current situation of products import.

Oil is the largest enegy source which sustains the world economy. This is why oil is deeply related with international politics or strategies and the security of oil supply is the basis of energy policy in many countries.

Oil still enjoys the predominant share of 60% in the total energy supply in Japan, and she is the largest importer of crude oil in the world.

Thus the secure supply of oil has the utmost importance in the Japanese energy policy. It is a matter deeply related with the national security. This is why we maintain what we call an onshore refining policy, namely to import crude oil and refine it into products to meet domestic demand.

However, in order to supplement these domestically refined products, Japan imports naphtha, fuel oil and LPG, which makes her the third largest importer of products in the world next to the U.S. and West Germany. The import ratio of products in the total domestic consumption is as high as nearly 20%. Japan is outnumbering other developed countries in terms of products import from the Middle Easten and Asian markets, and she is also the largest importer of naphtha and LPG in the world.

While naphtha, fuel oil and LPG are imported, gasoline, kerosine and gas oil have not been imported mainly because of the following reasons;

(a) The quantity of these products traded in the international market around Japan has been too small to be a stable source of supply.

(b) The quality of these products has not been good enough for consumers.

2. The changes of circumstances concerning the oil industry

(1) There happened or are happening majour changes of circumstance

concerning the oil industry in such a manner as to make it necessary to review the existing policies on oil.

international changes

(a)relaxation of the world oil market

Although the world oil market will become tight in 1990's, it will continue to be relaxed for the coming several years.

Against this background,there would be more room for the market forces to work without undermining the security of supply.

(b)expansion of products trade

Although the international trade of oil is conducted mainly in crude rather than in products , the products trade is steadily expanding so as to mitigate the inherent insecurity.

(c)common approach agreed in the IEA

In the latest ministerial meeting of the IEA , it was agreed to pursue expeditiously a common approach whereby they would maintain or create conditions such that imported refined products could go to the market of the different IEA countries and regions on the basis of supply and demand as determined by market forces without distortions.

domestic changes

(a)sophistication of Japanese refining facilities

Sophistication of refining facilities are promoted through the further introduction of secondary facilities to meet the increasing demand for gasoline and middle distillates. Therefore it has become much easier for the Japanese refineries to adjust their percentage yield of products to the fluctuation of products import.

(b)increased oil stocks in Japan

Oil stocks have been increased steadily to lessen the vulnerability of Japan to emergencies.

(c)further utilization of market forces

The reports of the Sub-committee of the Petroleum Council submitted in 1981 and 1984 already pointed out that it is desireable to make use of the vitality of private sectors as much as possible through market forces as the basic line of oil industry policies. The report of the Special Advisory Council on Enforcement of Administrative Reform submitted last July also pointed out that the oil industry should be internationalized step by step together with the necessary arrangements

(2) These changes mentioned above seem to enable us more flexible operation of oil industry policies including the possibility of further internationalization while maintaining onshore refining policy. Especially the existing policy regarding the import of gasoline, kerosine and gas oil ought to be reconsidered in view of the following points.

(a)Sophistication of Japanese refining facilities enabled the smoother adjustment of percentage yield product by product. It has enhanced the capacity to absorb the impact of the possible changes of market conditions including a sudden fluctuation of products import and so forth.

(b)The quality of imported products could , when necessary , be adjusted quite efficiently by utilizing refining facilities for the benefit of consumers.

3. Basic steps to be taken

The review has been made on the existing policies concerning products import , bearing in mind not only the changes of circumstances but also the importance of the security of supply and the utilization of market forces. As the result , the Special Sub-committee reached the conclusion that following are the basic steps to be taken.

(1) Products import in harmonized manner

Being one of the world largest consumers of oil , it is desirable for

Japan to increase products import through market forces , in view of International cooperation,while maintaining the onshore refining policy.

(2) Commencement of the importation of gasoline

In accordance with the idea mentioned right above , decisive steps should be taken expeditiously to commence the importation of gasoline kerosine and gas oil (hereafter " gasoline ") which has not been imported so far.

(3) Implementation of necessary arrangements

To enable the commencement of the importation of " gasoline " , it is essential to create appropriate conditions by way of introducing clear institutional measures , bearing in mind the importance of transparency ,so as not to cause any serious damages to the secure supply of products to consumers. In this respect, it is most desirable that the importation of " gasoline " by those who can meet the following requirements should be encouraged.

(a)One who can assure a secure supply of products by absorbing the impact of the fluctuation of market conditions through flexible choice or combination between domestically refined products and imported products.

(b)One who can make sufficient adjustment of products quality for the benefit of consumers.

(c)One who can securely hold enough stock of products in accordance with the Petroleum Stockpiling Law.

(d)and so forth.

(4) Other related mesures with the products import

In addition to introduction of institutional measures mentioned above , the creation of following circumstances is also important to increase products import smoothly.

(a)Lowering of the obligatory stock holding level of kerosine

After the commencement of the importation of " gasoline " it is desirable to relax the obligatory stock holding of kerosine (used as heating oil) which is assigned to oil companies every year during the period right before the high season , while taking due consideration of the security of supply to consumers. This lowering can be done because the sophistication of refining facilities made it possible to increase kerosine production when the market becomes tight.

(b) Further internationalization and restructuing of the oil industry

It is of vital importance for the oil industry to make every effort to restructure itself as a whole and to strengthen each company. For this purpose , .it will be necessary to promote the integration of major distributors as a part of the integration of oil companies and the rationalization of refineriesby means of the disposal of surplus facilities. It will also be necessary to facilitate technological development to explore new areas of demand of oil products.

Thus , the restructuring of the oil industry should be facilitated in various aspects.

(5) Flexibility in products export

The exportation of oil products has been allowed only when export is made as the result of contracts entrusted with refining crude oil (what we call "processing deal " contracts). But it will be necessary to introduce further flexibility in the management of the Export Trade Control System and facilitate oil products export in order to internationalize the oil industry in both ways , namely import and export of products.

Ⅱ. Promotion of restructuring of oil industry

1. Worldwide over-capacity and rationalization of refining facilities in Japan

(1)Due to a worldwide stagnation in the demand for oil products , the oil industry of the west is experiencing a drastic decline in the rate of operation and an overcapacity in refining.

Throughout this situation , disposal of surplus facilities , including the closing down of refineries , has been actively promoted.

(2)The Japanese oil industry , in 1983 , implemented the disposal of surplus facilities equivalent to the production capacity of around 1 million B/D. However, no drastic measures such as the close down of refineries were taken. Since then , the demand for oil has declined even further. This has led to a condition where the rate of operation is as low as 60% of capacity. Further, not having taken drastic measures earier , the Japanese refining system is inefficient because of ①the existence of medium and small size or old type refineries , and ②the over-concentration of refineries certain areas. Thus , more rigorous rationalization of facilities has become essential.

2. Steps for carrying out the disposal of facilities

(1)Having taken into account various factors such as the long term trends , possible sudden surges and so forth , of products demand , it is deemed appropriate to dispose of surplus facilities equivalent to the production capacity of 700 thousand to 1 million B/D.

The total amount of disposal of surplus facilities , including the 1 millon B/D disposal carried out in 1983 , will reach the equivalent of 1.7- 2 million B/D ; thus , the estimated production capacity after this disposal will be reduced by 28 - 33% compared with that of before the second oil crisis.

(2)Surplus facilities will be disposed of according to the following principles.

① Respect for independent decisions of each company

② Promotion of complete close downs of refineries

③ Mitigation of detrimental effects on employment and regional economies

④ Expeditious implementation of the disposal of surplus facilities;
(3 year time frame beginning April 1986)

⑤ Government support for smooth implementation of the disposal.

3. Challenge for technological development

In addition to the various approaches mentioned above, a more creative, innovative attitude is required to ensure the steady development of the oil industry. For example, in terms of technological development, research could be conducted to find a sophisticated use for currently unutilized oil distillates.

The oil industry must also strive to break out of its traditional boundaries by, for example, incorporating methanol fuel into its realm of business.

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Level of Oil Products Import in Major Countries

(Unit : Thousand Ton (%))

	U. K.	France	West Germany	United States	Japan
1978	11,585 (13.8)	9,298 (8.6)	42,000 (32.6)	76,356 (9.8)	23,946 (10.1)
1979	12,035 (14.4)	10,400 (9.5)	36,006 (27.2)	63,831 (8.6)	28,206 (11.5)
1980	9,227 (13.4)	12,675 (12.9)	37,471 (32.3)	52,231 (7.8)	24,590 (10.8)
1981	9,120 (13.8)	13,764 (15.7)	36,380 (33.8)	48,817 (7.2)	27,007 (11.9)
1982	12,524 (18.6)	18,923 (23.3)	38,666 (37.2)	49,874 (7.6)	29,920 (14.9)
1983	9,900 (15.4)	21,118 (26.4)	43,955 (43.1)	56,039 (8.4)	34,843 (18.2)
1984	23,007 (28.3)	21,367 (28.0)	43,761 (42.6)	65,449 (9.7)	37,738 (18.9)

Source : OECD ANNUAL OIL&GAS Statistics

( ) ; the share of oil products import for domestic demand .

Status Quo of Oil Products Trade in OECD Countries (1984)

(Unit : Million Ton)

Importing countries Exporting countries	United States	EC total				Japan	OECD Total
			France	West Germany	U. K.		
Middle East	2.1	10.1	2.1	1.1	0.4	13.4	27.8
Africa	6.9	10.0	2.8	1.7	0.7	0.2	18.5
Asia	4.7	2.2	0.3	0.1	0.6	16.2	23.7
Latin America	27.2	7.8	0.6	0.2	3.7	0.1	36.6
Europe	7.4	82.4	9.9	28.9	11.9	0.0	107.0
Total	65.4	160.4	21.4	43.8	23.0	37.7	308.0

Source: OECD ANNUAL OIL&GAS Statistics

Rationalization of Refining Sector in Western Countries

Country	1980		1981~84		End of 1984			Opera-tion rate in 1984 (%)	Reduction rate of production capacity between 1981-1984 (%)
	Number of refineries	Production capacity (Topper) (Thousand B/D)	Number of closed refineries	Amount of reduction of production capacity (Topper) (Thousand B/D)	Number of refineries	Production capacity (Topper) (Thousand B/D)	Average production capacity of each refinery (Thousand B/D)		
United States	303	19, 371	▲112	▲3, 473	191	15, 898	83. 2	75. 9	17. 9
EC Total	127	15, 990	▲ 34	▲4, 324	93	11, 666	125. 4	72. 0	27. 0
West Germany	(33)	2, 972	▲ 8	▲ 890	(25)	2, 082	83. 3	82. 6	29. 9
France	(24)	3, 402	▲ 7	▲1, 110	(17)	2, 292	134. 8	66. 3	32. 6
Italy	(33)	3, 430	▲ 10	▲ 750	(23)	2, 680	116. 5	59. 7	21. 9
U. K.	(21)	2, 690	▲ 5	▲ 714	(16)	1, 976	123. 5	75. 9	26. 5
Japan	49	5, 940	▲ 2	▲ 968	47	4, 973	105. 8	65. 4	16. 3

Source: Oil&Gas Journal, EC Report

Mr. SHARP. I am sorry that I do not have the figures immediately in front of me but how do you assess the difference between the U.S. tariff on gasoline, the European Common Market tariff which as I understand it is much higher than ours and the Japanese tariff which is considerably higher yet.

You have mentioned Japan but my question is, does the adminstration consider us on a level playing field with respect to the Common Market?

Secretary HERRINGTON. Today?

Mr. SHARP. Today, yes.

Secretary HERRINGTON. By in large, we are. There is very little protectionism from the Common Market on this particular product. I think the only problem in the area today is the Japanese. Japan is basically a market that can be opened and should be open. Petroleum product imports are a good test. In discussions with the Japanese, on a bilateral basis and otherwise, we made no bones about the fact that this was a nice place to link with some other areas, because this is a very pure case as far as trade is concerned.

Mr. SHARP. Of course, you are using the example where as I understand it, it is purely closed so that is very clear, but I guess what I am driving at is there are tariff differentials as I understand it and perhaps they are not sufficiently high to have any distortion in the market but I guess that is what I am asking you.

If I understand correctly what you are saying is that the administration does not consider the European approaches to this as particularly distorting the market?

Secretary HERRINGTON. They don't apply their tariff. They have it but they don't use it. The market is essentially open.

Mr. SHARP. Let me ask you another question and then I will turn to my other colleagues for questions. We have all seen the price of crude oil clearly going down, probably about $2 per barrel since last October and perhaps it will be less by tomorrow and at the same time we have seen the price of gasoline since February going up counter to the normal historical trends in this field. In fact, we should have seen about a 5-cent reduction instead of a 10-cent increase if I understand correctly.

First of all, I know the Department gets the data but the question is what factors do you think are leading to this change in the way in which pricing is going on between gasoline and crude oil?

Secretary HERRINGTON. I am aware of the situation, Mr. Chairman. I don't have the answer for you. I have asked the question internally in the Department for our best estimates of why this is taking place.

I am sure in my own mind that there must be some sort of industrial dislocations that are being corrected. I am sure that we are in the summer season where there is a lot of extra demand on the product. As I sit here today, I don't have a fix on what our gasoline stocks are. I have been told they are high; I have also been told they are low. I would like to get the accurate information.

If you don't mind, I would like to submit that answer for the record.

Mr. SHARP. We would appreciate having that and a followup to that. One aspect that often is cited is only one element but certainly could not account for the total cost differential is the lead phasedown requirement from EPA which isn't totally it, of course, and my question is whether the Department has looked at all at the question of whether or not our farmers—and others who use the leaded gasoline to the extent that they do in their equipment—are going to have any difficulty having it available, the question of availability at a reasonable price? Understandably it won't be exactly the same price but whether it is going to be massively different is an appropriate question.

Has the Department been looking at that question?

Secretary HERRINGTON. We have looked at this on a preliminary basis. We do not see any difficulty. We would be happy to submit any information on that for the record.

Mr. SHARP. I would appreciate having that. My farmers are starting to ask over and over and over again whether they are going to have fuel available or whether it is going to cost them a fortune—and ruin their investment in their machinery, to the extent that they have been using leaded gasoline. They use diesel, of course, for some things.

Did you have something further you wanted to add?

Secretary HERRINGTON. Yes. Mr. Silvey did point out that the basic EPA document they are operating off of is the U.S. Army study, where they are using everything—heavy equipment, every piece of machinery they have—on basically unleaded fuel, and there has been no impact.

That document we do have, plus the other information we are getting.

[The following information was received:]

The price of gasoline has fallen over the past four and one-half years. When we compare June 1985 to January 1981, a gallon of unleaded regular gasoline was about 5 percent more expensive in 1981; 30 percent more expensive in constant 1985 dollars; and 45 percent more expensive in terms of the average citizen's income. This progress is even more remarkable, when one considers that State and Federal excise taxes increased over the same period (Table I).

As shown in Figure 1, the overall price spread--the pump price, less crude oil cost and taxes—has also declined. The May 1985 spread was 31 cents per gallon for unleaded gasoline; five years earlier, with a complex regulatory system in place, the spread was almost 42 cents per gallon, about 37 percent higher in nominal terms. Adjusted for inflation, the price spread for unleaded gasoline has clearly declined over the past four and a half years (Figure 2).

As shown in Figure 3, the price spread for unleaded gas was about 8 cents per gallon higher than the spread 6 months earlier. Similar increases occurred in mid-1981, 1982 and 1983. The spread *declined* by over 10 cents per gallon in the six months ending January 1981 and the first few months of 1983; the decline was about 7 cents per gallon in six month periods ending in early 1982 and 1984.

As shown in Figure 4, at no time in the past three and one-half years has the price spread been higher than it was in the same month two years earlier.

The spread has increased in recent months as a result of normal seasonal changes, as well as recovery from abnormally low refiner margins in early 1985. The recent increase in gasoline refining margins is in part a return toward equilibrium market conditions in which margins for individual products reflect full recovery of production costs. This equilibrium was upset during 1984 by the U.K. coal miners' strike in April 1984 and the rising value of the U.S. dollar. The strike created a large increase in fuel oil demand in Europe, together with a surplus of light products (gasoline and middle distillates). The strong dollar made it especially attractive to export those light products to the U.S. market. The influx of light products depressed prices, resulting in the unusually low gasoline margins throughout 1984 and early 1985. By March 1985, the miners' strike had effectively ended, the dollar began to weaken, and the pressure of light product imports on refining margins eased.

The important point to keep in mind is that prices fluctuate in a free market. Moreover, there is no particular virtue in a market without fluctuation. If the spread for gasoline had not taken its varied pattern of decline and had instead declined absolutely smoothly from May 1980 to May 1985, consumers would have paid nearly $30 billion more for gasoline than they actually paid under a free market.

TABLE I

UNLEADED GASOLINE PRICES

YEAR	MONTH	CENTS PER GALLON
1981	January	129.8
	June	139.1
1982	January	135.8
	June	130.9
1983	January	122.8
	June	127.7
1984	January	121.6
	June	122.9
1985	January	114.8
	June	124.1

Source: Bureau of Labor Statistics

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Figure 1
PRICE SPREADS, 1980-1985
UNLEADED GASOLINE LESS CRUDE OIL

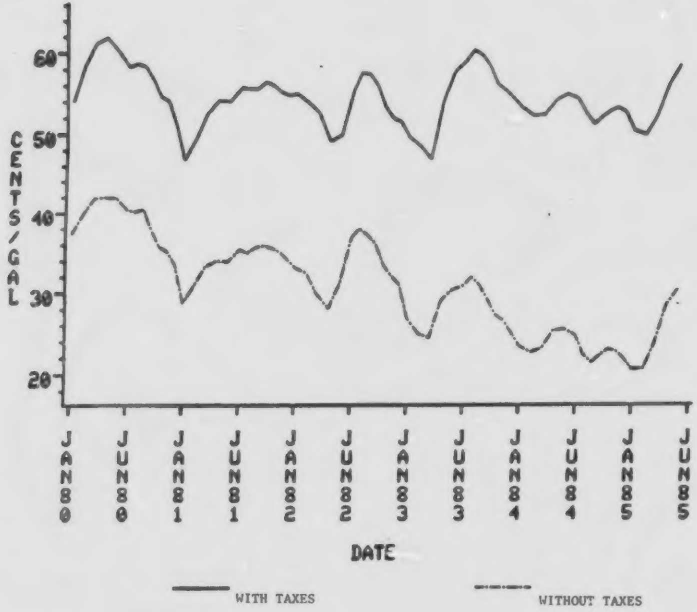


Figure 2
PRICE SPREADS, 1980-1985
UNLEADED GASOLINE LESS CRUDE OIL
INFLATION ADJUSTED
(1972 CENTS PER GALLON)

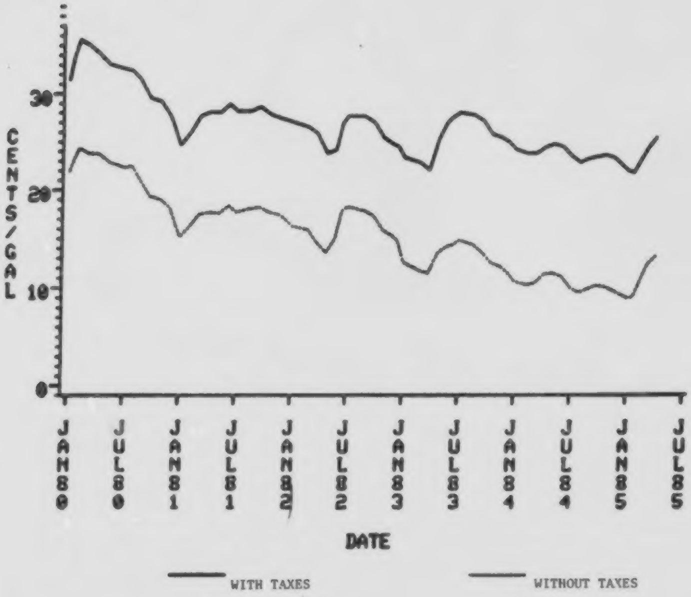


Figure 3

UNLEADED GAS WITHOUT TAXES LESS CRUDE

SPREAD (X) LESS SPREAD (X-6)

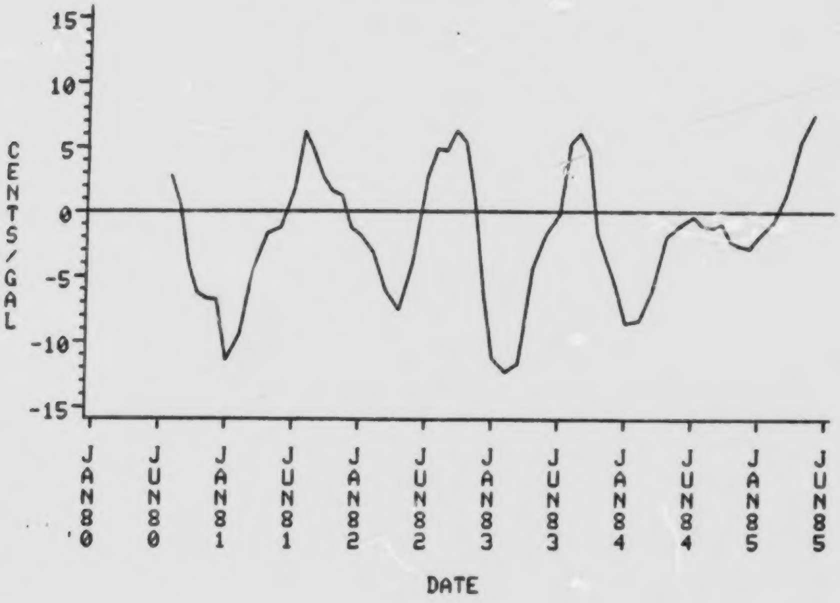
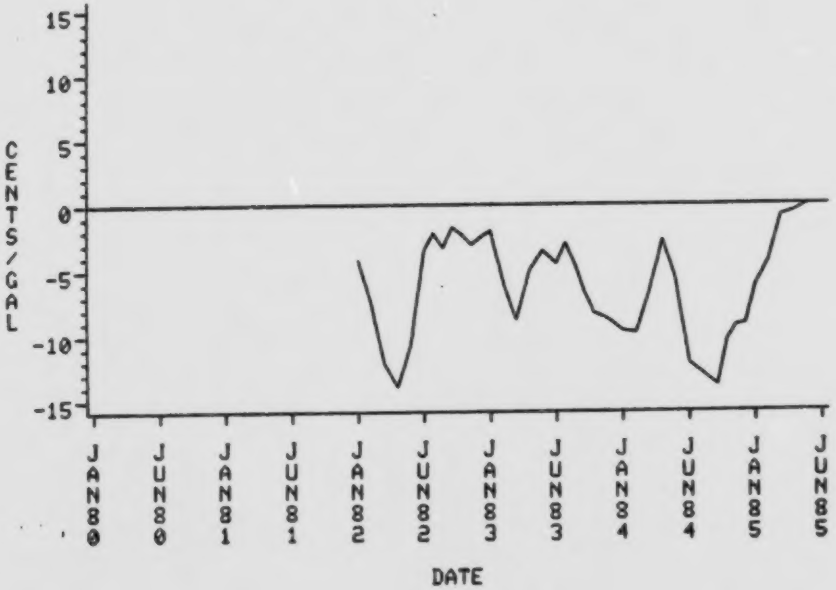


Figure 4

UNLEADED GAS WITHOUT TAXES LESS CRUDE

SPREAD (X) LESS SPREAD (X-24)



During the Army evaluation, which included over 3 years of operation at four Army installations and 1 year at two additional Army installations, over 68 million vehicle miles were accumulated on unleaded gasoline. The program utilized approximately 7500 commercial, tactical, and combat-type vehicles ranging from lawn mowers, air compressors and generators to tractors and heavy duty construction equipment. Many automobiles and trucks were also included. Engineer and Material Handling equipment also accumulated several thousand hours on unleaded gasoline without incident.

Throughout the evaluation, there were very few engine failures. None of these could be attributed directly to the use of unleaded gasoline. Also there was no evidence that unleaded gasoline caused any increase in vehicle maintenance cost. On the contrary, it was demonstrated in the program and also in the field evaluation, that engines operated on unleaded gasoline are cleaner burning; therefore, maintenance cost should be reduced. Also, unleaded gasoline did not alter the fuel economy of any of the vehicles used in the evaluation.

From the evaluation results the Army concluded that commercial, tactical and combat vehicles and all other equipment used in the program can operate satisfactorily, on the specified unleaded gasoline, during their normal day-to-day activities without any apparent fuel economy penalties and with no increase in vehicle maintenance or operating costs.

Attached is a copy of the Final Report (AFLRL No. 82) on the Army Field Study Evaluation.

[Note: The attachment referred to has been retained in subcommittee files.]

Mr. **Sharp**. You are saying that there is no mechanical problem with the use of unleaded in all of this range of equipment, is that what your testimony is?

Secretary **Herrington**. Yes. You are speaking about supply—availability at what cost. On that particular issue, I don't have the full answer.

Mr. **Sharp**. I guess what you are saying is without octane enhancers and various other additives as substitutes for lead, the original document suggests that unleaded should be an adequate fuel for the whole range of machinery that uses it?

Mr. **Silvey**. Yes, sir. The major concern they had was whether the lack of lead would be a lubricating problem.

Mr. **Sharp**. Right.

Mr. **Silvey**. And whether there would be some damage to the engine and what level lead you need to have minimal lubrication for those kinds of engines that burn leaded fuel.

We carried that argument to EPA. EPA told us that they had an extensive study from the U.S. Army where they had put unleaded fuel in all of their vehicles including heavy engineering equipment and other heavy vehicles that would be very comparable to what you find on your average farm and that there was absolutely no impact and it was over a period of years.

This is the document that EPA is using as a basis for the decision they have made to go forward immediately with the lead phase-down.

Mr. **Sharp**. I see. What you are saying is DOE raised the question with EPA at the time of the decision about the appropriate fuel.

Mr. **Silvey**. Yes, sir.

Mr. **Sharp**. They responded to you that they were relying on DOD studies on that.

Mr. **Silvey**. Yes, sir.

Mr. **Sharp**. I see. Do you happen to know if the equipment manufacturers agree with that?

Mr. **Silvey** No, sir.

Mr. **Sharp**. You don't know.

Mr. **Silvey**. No, I don't.

Mr. **Sharp**. I think that is going to be an increasingly relevant question here on Capitol Hill and I suspect that there will be some activities in the legislative process by some folks so I think it would be very useful if you folks could help us with the best information that you have available on this question because I know by the inquiries I personally get from my own constituents that you can multiply that all across the country. There are going to be lots of them.

So anything you can submit to us, we would certainly appreciate having.

The gentleman from Ohio is recognized to ask some more questions.

Mr. **Oxley**. Thank you, Mr. Chairman. Mr. Secretary, did you have any discussions with the Japanese in your recent meeting, the IEA meeting, with regard to Alaskan oil?

Secretary **Herrington**. Yes, sir we did.

Mr. **Oxley**. What were the results of those discussions?

Secretary **Herrington**. Obviously, the Japanese would like to import Alaskan crude oil. They have been requesting it for some time, as have some of the Members of Congress.

So we had the discussion. At this point it is still against the law to export Alaskan crude to Japan and there are no plans underway to do that, with the exception of Cook Inlet crude oil which is under review.

Mr. **Oxley**. What is your position on whether it is time to lift the ban on the sale of Alaskan crude to Japan and other Pacific countries?

Secretary **Herrington**. My feeling is that it probably is the time to think seriously about doing this. The transportation costs that we are paying today to take that crude from the terminals at Valdez down through the Isthmus of Panama and back up into our refineries are pretty expensive, compared with what the transportation costs would be if we were to take it to South Korea and Japan.

There are several ways to look at this issue. Oil can go anywhere in the world, however, and I think that if you could reduce the transportation costs of oil to a certain degree, you could reduce the cost of petroleum products in this country.

Mr. **Oxley**. How would the cost of transportation compare between Alaska and Japan for example and Alaska and the continental United States?

Secretary **Herrington**. We have $4 to $5 we are paying—hold on one second.

[Secretary Herrington and colleagues conferring off the record.]

Secretary **Herrington**. We have $1.50 per barrel to transport Alaskan crude to California, $4 to $5 per barrel if you take it through the canal back up to the gulf and east coast, and about 50 cents to $1 per barrel if you transport to Japan.

Mr. **Oxley**. To Japan?

Secretary **Herrington**. To Japan, I am sorry.

[The following information was received:]

DOE's most recent estimates of current tanker rates on routes from Alaska are as follows:

Route:	*Per Barrel*
Alaska-Japan	$0.67
Alaska-U.S. west coast	1.24
Alaska-U.S. gulf coast	4.35

Mr. Oxley. So there is a significant difference in the cost of transporting in that regard?

Mr. Secretary, do you or does the administration have any plans to support and indeed introduce legislation that would lift the ban on the sale of Alaskan crude?

Secretary Herrington. Not at this point.

Mr. Oxley. Has that been contemplated or will that be contemplated?

Secretary Herrington. We have been asked to consider that several times by a number of Members of Congress who are supportive of the concept. I know of no plans and there is no operation under review now, as I said, with the exception of Cook Inlet, which is not under the law and is a very small amount.

Mr. Oxley. We have a lot of talk in this place recently about the balance of payments with Japan, for example, and how we may very well reach $50 billion this year in trade deficit with Japan. Has your agency done any study as to what positive aspects we could see from the sale of Alaskan crude toward our balance of payments with Japan?

Secretary Herrington. We could put some numbers in for the record, sir. I have heard several figures. We could get significant reduction in the balance of payments deficit which is currently very large. We have also talked to Japan about purchasing more enriched uranium. We are making every effort we can to sell more of the commodities in the energy area, including coal.

[The following information was received:]

There are a number of factors that would govern the level of exports of Alaskan crude oil if current restrictions on sale abroad were lifted. Among the more important of these are shipping costs, world oil prices, tax policies, and regional refinery capacities. Varying assumptions regarding these factors lead to different indications of the economic impact of permitting export of Alaskan crude oil.

DOE's analysis of the economic effects of allowing Alaskan exports finds that while increased exports would initially be largely offset by imports of approximately the same value, bilateral balances of trade would improve with certain Pacific Rim countries such as Japan.

Exports of crude oil to Japan could reduce our bilateral trade imbalance by approximately $4 billion to $12 billion a year.

Over time, exports of Alaskan oil would cause net oil imports to the U.S. to decline slightly, due to increased domestic production and more efficient transportation of oil. The effect would be a small improvement in our overall balance of trade.

Mr. Oxley. I would appreciate if those numbers could be made available for the record, Mr. Chairman, and inserted in the appropriate place. It just seems to me, Mr. Secretary, that a lot of people in the Congress that are making the most noise about the trade deficit with our friends from Japan are also the same ones who are standing in the way of allowing us to sell Alaskan crude to Japan.

I think that is a real shame and it points out a real conflict that we have within the Congress and perhaps within the administration as to how we can best deal with the trade deficit and with the obvious advantages that we would gain by the sale of Alaskan crude.

Let me ask you just one more thing, if I may. The article that appeared in the Post yesterday states, "In 1972, just before the Arab oil embargo, world oil prices averaged $3.39 per barrel. A $15 per barrel world price today would be equal to $6.50 in 1972 dollars."

Reading that and looking at the cost of crude today, even if it has come down to some extent, would seem to me that based on the law of supply and demand and world oil supplies that oil is much overpriced today still on the world market when you compare the availability of crude and particularly overpriced it seems to me at the pump.

I pulled up to the pump yesterday and paid $1.40 per gallon for premium unleaded which seems to me, based on what we have heard from you and from what we have studied, seems way out of line as to what the world reality is in terms of supply and demand for oil.

Would you care to comment on that?

Secretary **Herrington**. I would agree with you 100 percent. The chairman asked me a second ago why there is a "disconnection" between gasoline prices and crude oil. I think that article said that a $1 per barrel drop in crude oil ought to result in a drop of 2.5 cents per gallon of in gasoline. I don't know if that is the accepted figure or not, but it is somewhere in that area.

There is no question that oil is overpriced and that prices are falling. The American consumer rode that roller coaster on the way up and paid the price: they ought to be able to ride it back down again and get the benefits. That is one of the reasons I am not too excited about an import fee or any efforts to keep the price of crude up.

I think the consumers are entitled to the best price the market can deliver.

Mr. **Oxley**. Thank you.

Secretary **Herrington**. Thank you.

Mr. **Sharp**. Thank you, Mr. Secretary, and we would appreciate the additional information we have requested on a variety of topics and we appreciate your taking the time to prepare and to be with us today. Thank you very much.

Secretary **Herrington**. Mr. Chairman, thank you.

Mr. **Sharp**. Mr. Secretary, we will have some additional written questions from a few of our colleagues, and I thank you very much. The subcommittee stands adjourned.

[Whereupon, at 3:20 p.m., the subcommittee recessed, to reconvene at the call of the Chair.]

OIL OUTLOOK: PRICE, SUPPLY, MERGERS, IMPORTS, AND TAXES

TUESDAY, JULY 30, 1985

House of Representatives,
Committee on Energy and Commerce,
Subcommittee on Fossil and Synthetic Fuels,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room B-318, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. **Sharp**. The subcommittee will come to order.

This is the third hearing in the subcommittee's five-part series on energy security. Today's hearing will examine the impact of the restructuring of the U.S. oil industry on domestic exploration and production.

While the pace of hostile takeovers involving oil companies seems to have slowed, many analysts feel the so-called merger mania of the past 2 years will have a lasting effect on the U.S. oil industry.

Some companies have had change thrust upon them, as the result of takeover attempts. Others have voluntarily adopted major restructuring plans.

As a result, many companies have drastically increased their levels of debt, which some observers fear will divert funds that otherwise would go toward exploration.

This trend comes at a time when oil companies already are facing a variety of pressures limiting their exploration efforts. Increased debt may also increase the companies' vulnerability to economic fluctuations, such as rising interest rates and abrupt drops in the price of oil.

Today's hearing will discuss what effect, if any, these changes may have on overall exporatiion rates and U.S. energy security for the long run.

We are pleased to have among our witnesses representatives of the oil industry and the investment community, and I am delighted to welcome our first panel, but let me before I do that recognize our colleague from Oklahoma, Mr. Synar, for an opening statement.

Mr. **Synar**. No statement.

Mr. **Sharp**. I am pleased to welcome our first panel. We have with us Mr. Arthur Smith, Mr. T. Boone Pickens, Jr., and Dr. Sanford Margoshes. Gentlemen, if you will come forward. We have your name tags. Gentlemen, you are all familiar with our procedure. We will be happy to make any written statement you have a part of the record, and will be happy to hear your oral presentation at this time. First on our list we have Dr. Smith.

STATEMENTS OF ARTHUR L. SMITH, PRESIDENT, JOHN S. HEROLD, INC.; T. BOONE PICKENS, JR., PRESIDENT, MESA PETROLEUM CO.; SANFORD L. MARGOSHES, FIRST VICE PRESIDENT OF RESEARCH, SHEARSON LEHMAN BROS., INC.

Mr. SMITH. Thank you, Mr. Chairman and members of the subcommittee. My name is Arthur L. Smith, president of John S. Herold, Inc., a company that specializes in oil research, based in Greenwich, CT. Looking at the current situation—the restructuring of the oil business—the important thing to note is the advanced state of exploitation of the domestic resource base.

A man in the audience today, Mr. M. King Hubbard, has done some extensive work trying to determine the extent of the domestic oil resource base, and this work has shown pretty definitely that there are some 170 billion barrels of oil to be found in the lower 48 States, of which we have produced about 70 percent. We hold about 20 billion barrels of oil in proven reserves to date in our undiscovered reserved potential amounts to a modest 20 billion barrels.

So while many people look at the oil business and complain that the price of oil is too low or the costs of drilling are too high, it is more important that we look at the fact that the oil just isn't there, or there is not much more to be found, and that is what makes things tough today.

Mergers and restructuring are a natural evolution of the industry's disappointing fundamental situation. When my company looked at the historical data on capital budgets, the oil business, it is definite that oil spending does decline after mergers take place. This is from looking at the major oil mergers from Conoco/Du Pont, Marathon/U.S. Steel, and others. However, the point that I would like to bring up is that it is not necessarily bad, that is, the declining exploration expenditures after mergers. because we have seen an improvement in the exploration efficiency of money spent by the industry.

Some acquisitions made by the oil business have been extremely successful, such as Shell Oil's purchase of Belridge Oil. Shell has more than doubled heavy oil production over the last several years.

Looking at the industry situation right now, I note that oil industry exploration budgets are trending lower. An informal survey we carried out at our firm pointed out that restructuring is not the principal cause of that decline in exploration spending. The most important factors are lower oil and gas pricing assumptions, the fact that oil service costs have declined, therefore companies are getting more physical activity for their exploration dollar. Restructuring is a factor. However, the natural gas surplus is also very significant, and many companies are beginning to show some increase in foreign emphasis, particularly Canada. That is because of an improvement in the Canadian political environment.

On the issue of oil company pressure for short-term performance, I am very much a believer in the fact that investors do send signals to management with their investment dollars, that oil stock market valuations, low oil valuations have definitely pointed up a disappointment on the part of investors with those companies, and the fact that we cannot separate this development in the oil industry from the fact that restructuring and mergers and takeovers are a part of corporate America. Short-term Wall Street pressure on companies is not at all unique to the oil industry.

To sum up, I believe that oil industry mergers, takeovers, liquidations, divestments and share repurchases are all forms of capital reallocation. That from what I can see in terms of the performance of oil companies after acquisition, this allows many of the majors or others to reduce their risk profile. Instead of spending high-risk dollars on wildcat exploration, they are now spending money on more defined projects with higher rates of return. While there is a long-term issue about domestic oil security, we will have to address legislative efforts to shield oil firms from competitive threats would short-circuit the efficient market, and it would not be in the best interests of the oil industry or the U.S. national interests overall.

Thank you.

Mr. SHARP. Thank you very much, Mr. Smith.

[Testimony resumes on p. 312.]

[The prepared statement of Mr. Smith follows:]

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STATEMENT OF ARTHUR L. SMITH, PRESIDENT
JOHN S. HEROLD, INC., GREENWICH, CONNECTICUT

Thank you, Mr. Chairman and members of the Subcommittee. My name is Arthur L. Smith. As president of John S. Herold, Inc., an independent petroleum industry research and consulting firm based in Greenwich, CT., I welcome the opportunity to address the committee today. My firm specializes in petroleum industry market analysis and the development of independent economic appraisals of the underlying asset value of the largest domestic petroleum enterprises.

During the 37 year course of John S. Herold, Inc.'s business existence, the firm has witnessed numerous periods of intense merger and acquisition activity in the oil sector. The universe of oil entities that we monitor is constantly in a state of flux brought about by industry consolidations, divestitures and liquidations. Since 1971, more than 85 oil firms covered in our evaluation service OIL INDUSTRY COMPARATIVE APPRAISALS (OICA), have either merged or sold out. (See Table A). Based on the foregoing, I believe John S. Herold is in a unique position to comment on developments in the oil takeover arena.

Within the broad context of the hearing--the impact of oil industry restructuring on domestic petroleum resource development--I will endeavor to address each of the specific topics outlined for today's hearing. However, I believe that an overview of the historical background of the U.S. oil industry is warranted first.

HISTORICAL PERSPECTIVE

The history of the conventional petroleum industry stretches back some 150 years to the famed oil strike made by Colonel Edwin L. Drake at Titusville, Pennsylvania. On August 27, 1859 Drake completed a 30-foot-deep cable tool well which sparked the first oil drilling boom. Soon the previously-thriving New England whaling industry was decimated by low-cost Pennsylvania Crude and Nantucket, Massachusetts became a ghost town. Drake's successful oil test prompted such frantic drilling activity that the market was quickly awash in oil and the petroleum industry experienced its first "glut." The price of oil (in inflation-adjusted terms) plunged precipitously from $255 per barrel (whale oil) in 1859 to as low as 50¢ per barrel (Pennsylvania crude) several years later.

Oil is a finite resource, depleted by the exploitation of each discovery. The United States holds the distinction of being the first major global petroleum producer and the preponderance of the world's exploration and development activity has taken place domestically.

TABLE A

JOHN S. HEROLD COMPANIES MERGED OR SOLD OUT 1971-85

Company	Acquired By	Date of Last Appraisal	Appraised Worth	Acquisition Price
			- - - -$/Share-	- - - -
Alminex Ltd.	Canadian Superior	12/77	12.00	NA
Apco Oil	Liquidated	5/77	31.50	NA
Apexco, Inc.	Natomas Company	4/76	33.00	31.50
Aquitaine Canada	Canada Development Corp.	1/81	73.95	74.00
Ashland Oil Canada	Kaiser Resources	2/78	30.60	33.50
Austral Oil	Superior Oil	10/76	29.30	36.00
Aztec Oil & Gas	Southland Royalty	3/75	29.55	32.00
Basin Petroleum	Reserve Oil & Gas	2/75	7.75	10.00
Belco Petroleum	InterNorth	7/82	57.60	31.50
BP Oil & Gas	BP Canada	12/71	4.00	NA
Bracell Petroleum	Murphy Oil Ltd.	4/73	2.20	3.00
C & K Petroleum	Alaska Interstate	11/79	12.15	35.00
Calvert Exploration	Sun Company	3/74	6.70	7.50
Canadian Export Gas & Oil	Pacer Development	1/77	5.25	6.15
Canadian Homestead	Inter-City Gas	1/80	26.35	NA
Canadian Industrial Gas & Oil	Norcen Energy Resources	2/74	10.75	7.00
Canadian Merrill	Francana Oil	4/79	29.95	23.30
Canadian Superior Oil	Superior Oil	1/79	163.30	125.00
Cardinal Petroleum	Phillips Petroleum	3/73	17.90	27.40
Central-Del Rio	PanCanadian Petroleum	1/71	8.20	NA
Cities Service	Occidental Petroleum	5/82	97.00	53.00
Clark Oil & Refining	Apex Oil Company	5/80	47.05	37.00
Cleary Petroleum	W.R. Grace	7/71	9.05	11.95
Colorado Interstate	Coastal States Gas	12/71	46.80	40.00
Conoco Inc.	Du Pont	7/81	160.80	82.00
Consolidated Production	Petro-Lewis	4/72	7.40	NA
Coquina Oil	St. Joe Minerals	9/76	16.55	22.50
Cotton Petroleum	United Energy Resources	3/76	13.00	17.00
Del Mar Production	Shenandoah Oil	3/72	3.35	NA
Dorchester Gas	Damson Oil	1/84	24.10	22.50
Eason Oil	International Telephone	12/76	47.60	73.90
Energy Reserves Group	Broken Hill Pty. Co.	1/84	5.70	6.10
Exchange Oil & Gas	Georgia-Pacific Corp.	1/75	8.50	11.00
Felmont Oil	Homestake Mining	1/84	33.10	38.45
Flying Diamond Oil	Bow Valley Industries	5/77	28.40	30.00
General American Oil	Phillips Petroleum	11/82	49.50	45.00
General Crude Oil	International Paper Co.	3/74	41.00	50.00
Getty Oil Co.	Texaco Inc.	12/83	153.15	128.00
Great Basins Petroleum	Liquidated	3/82	5.35	NA
Great Plains Development	Burmah Oil	9/73	41.60	40.00
Gulf Corp.	Chevron Corp.	8/83	113.90	80.00
Hanover Petroleum	Total Petr. (No. Amer.)	11/75	14.60	NA
Home Oil	Consumers Gas	10/79	102.00	85.00
Houston Natural Gas	InterNorth	4/84	NA	70.00
Houston Oil & Minerals	Tenneco Inc.	5/80	29.75	52.00
Hudson's Bay Oil & Gas	Dome Petroleum	6/81	43.50	53.63
Kewanee Industries	Gulf Oil	5/77	50.00	47.50
Ladd Petroleum	Utah International	1/73	5.65	NA
La. Land Offshore Exploration	Louisiana Land & Exploration	8/84	7.20	10.00
LVO Corp.	Utah International	10/74	9.30	8.60
Marathon Oil	U.S. Steel	4/82	131.65	101.00
McMoRan Exploration	Freeport Minerals	6/80	7.40	34.35
Midlands Energy	Freeport-McMoRan Inc.	1/84	23.30	30.00
Midwest Oil	Std. Indiana	12/71	125.10	NA
Natomas Company	Diamond Shamrock	6/83	18.00	22.80
NFC Corp.	MGF Oil	1/80	18.15	22.40
Ocean Oil & Gas	Ocean Drilling & Exploration	5/80	55.45	67.50
Pacific Petroleums	Petro-Canada	11/78	81.35	65.00
PanOcean Oil	Marathon Oil	7/75	16.00	18.00
Pasco, Inc.	Liquidated	7/75	51.50	50.50
Pelto Oil	Southdown, Inc.	10/73	28.00	35.00
Petrofina Canada	Petro-Canada	9/80	102.00	120.00

Company	Acquired By	Date of Last Appraisal	Appraised Worth	Acquisition Price
			$/Share	
Phoenix Resources	Texas International	10/81	28.85	35.00
Pubco Petroleum	Mesa Petroleum	11/72	10.65	NA
Reserve Oil & Gas	Getty Oil	1/79	20.55	35.00
Shell Oil	Royal Dutch/Shell	5/84	81.50	60.00
Shenandoah Oil	Liquidated	6/78	32.00	NA
Siebens Oil & Gas	Dome Petroleum	2/78	21.25	38.50
Skelly Oil	Getty Oil	7/76	144.00	NA
Southwest Gas Producing Co.	Eason Oil & Devon Corp.	6/72	16.00	NA
Sundance Oil	Soquip	8/84	4.95	10.00
Sunlite Oil	Anret Inc.	1/83	14.55	NA
Superior Oil	Mobil Corp.	8/83	46.20	45.00
Supron Energy	Allied Corp. & Continental Group	8/81	38.90	35.00
Terra Resources	Farmland Industries	1/76	30.25	31.00
TransOcean Oil	Esmark	2/79	17.35	NA
Union Oil Canada	Unocal Corp.	4/81	54.00	65.00
Voyager Petroleums	Nu-West Development	4/79	19.25	25.00
Webb Resources	Std. Oil Ohio	4/79	11.80	NA
Westcoast Petroleum	Westcoast Transmission	7/81	23.65	29.00
Westates Petroleum	Santa Fe Industries	8/76	11.00	11.00
Western Decalta	Loram International	9/76	9.85	8.00

During most of its history prior to World War II, the United States had been the world's largest oil-producing country, and a net exporter of oil. In the century and a half since Colonel Drake's well, more than 90% of the wells drilled in the world have penetrated United States soil. In our opinion, the domestic oil industry's current period of devastating structual shakeup is largely a function of the advanced state of the domestic petroleum resource base. A direct parallel can be drawn between the mature domestic steel industry which has undergone recent wrenching change and retrenchment, and the oil industry's adjustment to critical changes in its marketplace through "restructuring."

Two nagging major fundamental problems are at the heart of the oil industry's current dilemma:

1) The price and demand outlook for oil and natural gas is not sanguine; and

2) The extremely high finding costs for new petroleum reserves in the United States make exploration activities a "loser's game" for the average oil company. While natural gas reserve development in the U.S. is less costly than oil, significant excess production capacity industrywide considerably impairs gas reserve economics.

WHAT'S WRONG WITH THE OIL BUSINESS?
THE INDUSTRY'S NAGGING PROBLEMS

Politics, economics and geology are at the root of the oil industry's reinvestment dilemma. The industry's lifeblood is the upstream sector--the exploration, development and production of oil and natural gas. The preponderance of earnings and cash flows generated in the industry is derived from producing operations--in fact, for many oils, upstream operations subsidize all other activities, such as loss-ridden refining/marketing and petrochemicals and ill-fated investments in minerals.

Not surprisingly, the industry plows back the lion's share of its available capital into exploration and development operations. Its financial clout is staggering--the John S. Herold universe of the 30 largest integrated oils generated more than $80 billion of cash flow in 1984, with Exxon alone pumping out nearly $12 billion. The problem the industry faces is that for most companies oil exploration generates sub-par returns, i.e., the present value of new discoveries is below finding costs. Simply stated, where you can find oil cheaply, you can't make any money. Where you can make money producing oil, you can't find any oil.

In our view, the oil industry's reinvestment paradox is more a function of two factors that receive relatively little attention--resource depletion and political environments/tax regimes--than of the high-profile considerations of oil price and the cost of drilling. To elaborate, in those political environments where oil companies can profitably produce oil and gas (favorable levels of taxation such as the United States), new petroleum reserves are scarce and have high finding costs. Conversely, in those areas of the world where significant low-cost undiscovered oil reserves exist, onerous taxation and the omnipresent risk of expropriation seriously impair the economic attractiveness of new investment.

WHY ARE THE OIL INDUSTRY'S REINVESTMENT OPPORTUNITIES LIMITED?

It is no wonder that confusion reigns given the mixed signals emanating from the oil patch. On the one hand, a bullish trend is suggested for the price of oil and and the value of domestic petroleum reserves given the strong evidence that the resource base is scarce and getting scarcer. The facts: U.S. petroleum reserves are declining and even the results from the frontiers are discouraging (e.g., the dry hole at the Mukluk structure in the Alaskan Beaufort Sea). Yet, an international view of the oil sphere gives a decidely bearish picture. The facts: OPEC oil production capability is more than 16 million barrels per day higher than current consumption, and major low-cost oil reserves have been delineated in recent years that await necessary capital to be brought on production (e.g., Mexico).

A review of the key issues is in order:

THE DOMESTIC RESOURCE BASE - M. KING HUBBERT IS RIGHT

The recent discouraging oil industry exploration experience in the United States has again drawn attention to the landmark geological studies of M. King Hubbert, whose work for Shell Oil and the United States Geological Survey is best known in industry circles for the "Hubbert Resource Curve" and "Hubbert Pimple". (The latter describes Mr. Hubbert's estimation of the short duration of the era of fossil fuels in the time scale of humanity).

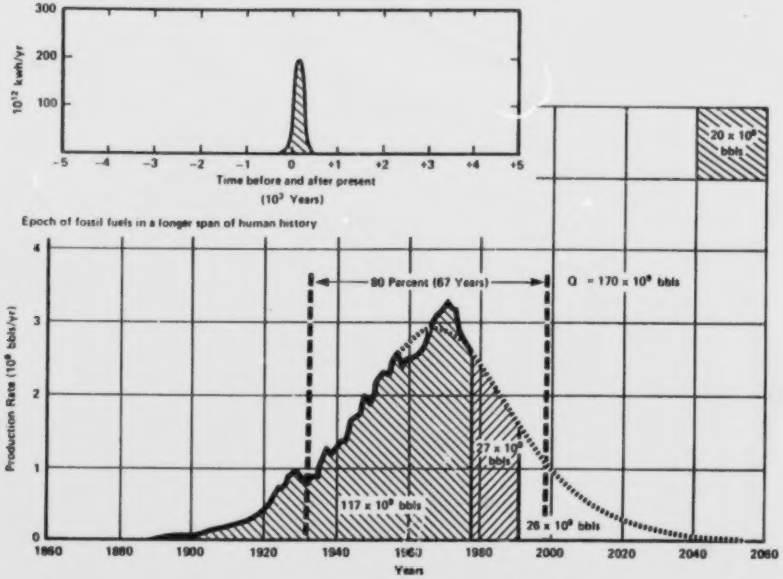
Mr. Hubbert, geologist, physicist and economist, first shocked the oil industry in 1956 with his accurate prediction of a peaking in domestic (lower 48 states) oil production between 1966 and 1971 at a time when the consensus view called for infinite growth potential. Hubbert's prediction was proven out when U.S. crude oil output peaked at 9.6 million barrels per day in 1970. King Hubbert's estimation work on the fossil fuel resource base has cast him as a pessimist and a pariah in th oil industry. In the academic community, however, Mr. Hubbert is recognized as one of the leading minds in earth sciences.

A graphical presentation of a Hubbert Resource Curve for lower-48 oil resources is presented in Chart I. To oversimplify grossly, King Hubbert's thesis is based on the finite nature of all resources and the distribution of such resources in a bell-shaped curve. In the early years of the oil industry's development, production gains were easily accomplished as the great billion-barrel Texas and Oklahoma oil fields were discovered and developed (East Texas, Yates, Wasson, Kelly-Snyder, et al.). The 1920-1940 boom in the oil industry coincides with the first half of Hubbert's curve. With the giant field discovery potentials exhausted, the industry then dipped down the slope of the bell with ever-increasing amounts of capital required to discover smaller and smaller oil deposits.

Certainly, the oil industry's recent experience attests to the veracity of Hubbert's thesis. While every explorationist dreams of discovering the next Prudhoe Bay or Anschutz Ranch East, and prospects are often described as having 100-million-barrel or trillion-cubic-feet potential, very few reserviors of that magnitude are found today, notwithstanding heightened exploration efforts.

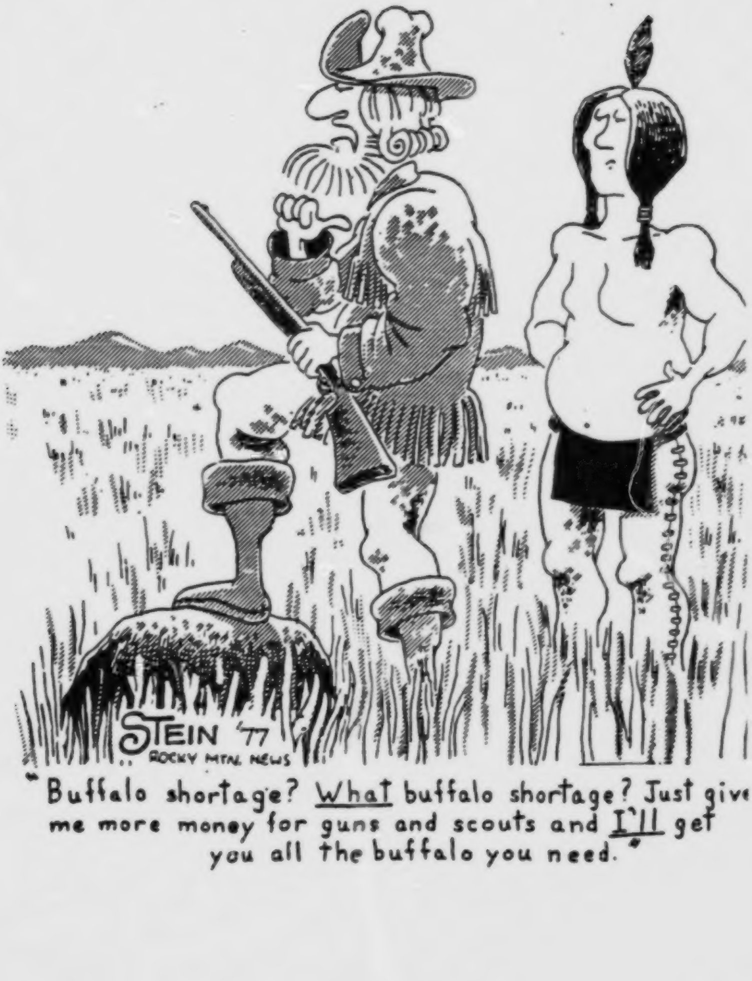
CHART I

HUBBERT "PIMPLE" & DOMESTIC RESOURCE CURVE



Epoch of fossil fuels in a longer span of human history

– Complete cycle of U.S. crude-oil production as estimated in 1980 superposed upon derivative of logistic equation of 1972.


STEIN '77
ROCKY MTN. NEWS

"Buffalo shortage? What buffalo shortage? Just giv
me more money for guns and scouts and I'll get
you all the buffalo you need."

When we discussed the advanced state of development of the domestic petroleum resource base with Dr. Hubbert, he stated, "I have long been of the opinion that the greatest mistake the oil industry ever made was to hire geologists and geophysicists to find and produce oil instead of economists. Economists have always been able to find twice as much oil on paper than geologists have been able to find in the ground."

The oil industry is facing an almost impossible task in its efforts to replace annual domestic hydrocarbon output. Through year-end 1984 the industry had depleted roughly 76% of 175 billion barrels Dr. Hubbert has estimated for ultimate recovery from conventional oil reserves in the contiguous U.S. With an estimated 21 billion barrels in the proved category today, the industry's intense exploration efforts are directed at a seemingly modest undiscovered oil target of only 21 billion barrels. With respect to natural gas resource potential, Dr. Hubbert's estimates, while admittedly less precise, suggest that roughly 75% of 1,100 TCF lower-48 reserve potential has been exhausted. This implies that in addition to the roughly 166 trillion cubic feet of current lower-48 natural gas reserves, only another 260 TCF await discovery.

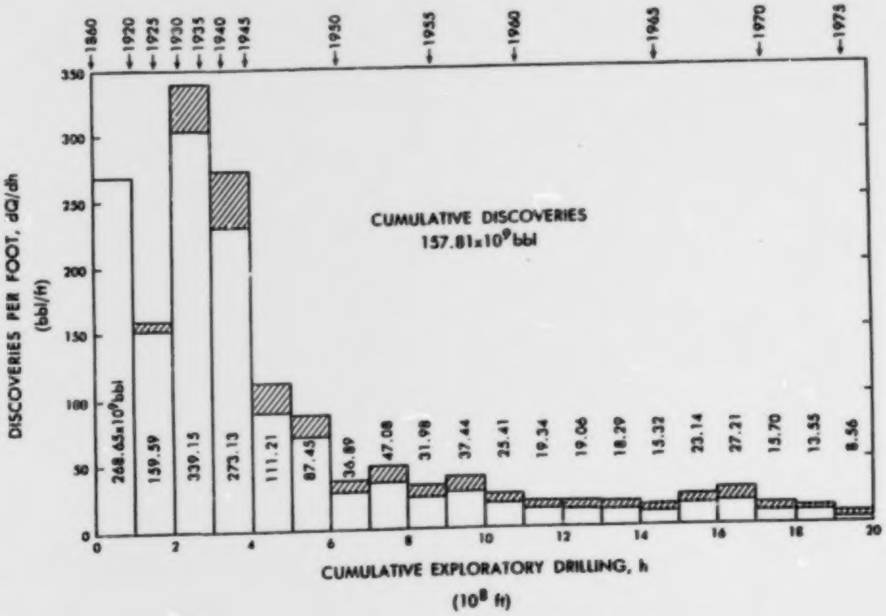
N.B.: Dr. Hubbert's estimates apply to the lower-48 states only. Alaska is treated as a separate province in his estimation studies.

DOMESTIC OIL EXPLORATION - IS IT A LOSER'S GAME?

Other documentation of the declining marginal rate of success in delineating petroleum resources domestically is apparent in the data on petroleum reserves added per foot drilled and on oil industry finding costs. (Oil service analysts have long cited the declining trend in reserve additions per foot drilled as a bullish fundamental factor supporting growth in the service sector.) As is evident in Chart II, exploratory drilling additions have plunged during the past 60 years, from a high of over 300 barrels added per foot drilled to a current estimate of roughly five barrels. To the chagrin of the heavily-depressed oil service industry, there is a crossover point at which the costs of drilling (estimated at $83 per foot in 1983) exceed the present value of the five barrels theoretically added from exploratory drilling.

CHART II

DAVID ROOT - DOMESTIC DISCOVERIES PER BILLION FEET OF EXPLORATION DRILLING



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TRENDS IN OIL INDUSTRY CAPITAL SPENDING

The dollar commitment and geographic emphasis of oil industry upstream capital spending key off of one dominant factor: The projected discounted cash flow (DCF) economics of exploration/development drilling. In turn, rate of return analysis incorporates an assessment of:

1) Geologic/Pricing Factors
    a) Reservoir characteristics, geologic risk.
    b) Production profile of discovery; drilling and completion costs.
    c) Oil and Gas Pricing Assumptions; and
2) Tax Regime/Political Environoments
    a) Royalty rates, severance taxes.
    b) Host country depletion policy and income tax levies.
    c) Risks of adverse tax changes/development policies
    d) Expropriation risks.

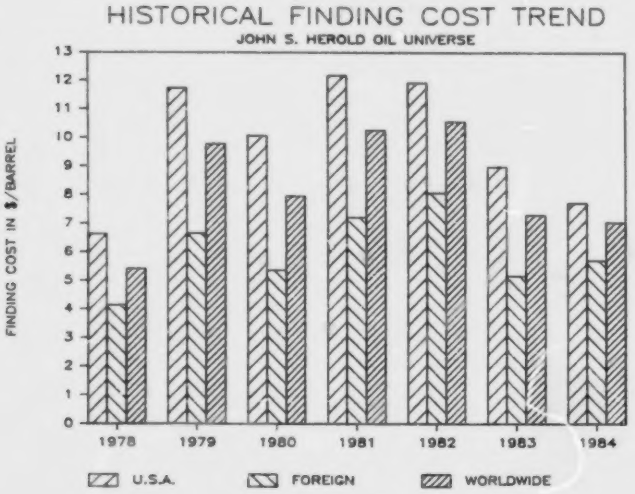
While it was the enormous positive impact of surging oil and gas prices that triggered the worldwide exploration boom of 1979-1982, industry exploration efforts are also centrally influenced by political/tax changes. For example, during the past several years, oil industry exploratory drilling activity in the U.K. sector of the North Sea has experienced two full cycles of ebb and flow in response to increased North Sea taxation (1979, 1982) and later tax and depletion policy relaxation (1981, 1983).

Similar cyclic swings in exploration activity in response to variations in tax policy have been witnessed in virtually every major oil country in the world where private oil industry capital is directed, e.g. Egypt, Indonesia, Nigeria, Norway, The Netherlands. Our northern neighbor, Canada, brought oil industry activity to a virtual halt with the adoption of the ill-conceived National Energy Plan and "Canadianization" policy.

Today the most apparent directional shift in international oil exploration spending is the renewed emphasis on Canada. Major positive moves have been recently enacted by the federal and provincial governments (reduced royalty and tax rates, drilling incentives, relaxation of natural gas export restrictions) which have bolstered industry investment returns and hence, have had the desired effect of attracting oil capital to Canadian exploration and development.

Numerous countries around the world are liberalizing taxation policies and concession terms in an attempt to lure explorationists back to their shores. The undeveloped resource potential of foreign areas is decidedly better than that of the U.S. as pointed up by the consistently lower "finding costs" in international exploration demonstrated by the John S. Herold oil universe.

OIL "FINDING COSTS" DIP TO SIX YEAR LOW OF $7.05 PER BARREL IN 1984. The John S. Herold, Inc. universe of 134 oil companies added (on a worldwide basis) through extensions, discoveries, purchases of proven reserves and after net adjustments to prior estimates some 7.2 billion equivalent barrels of recoverable oil (natural gas converted to oil at BTU basis of 6 MCF = 1 barrel) at a total cost of $50.8 billion. This 1984 record represents a moderate improvement over the results of our 1983 survey which found an average "finding cost" of $7.30 per barrel.



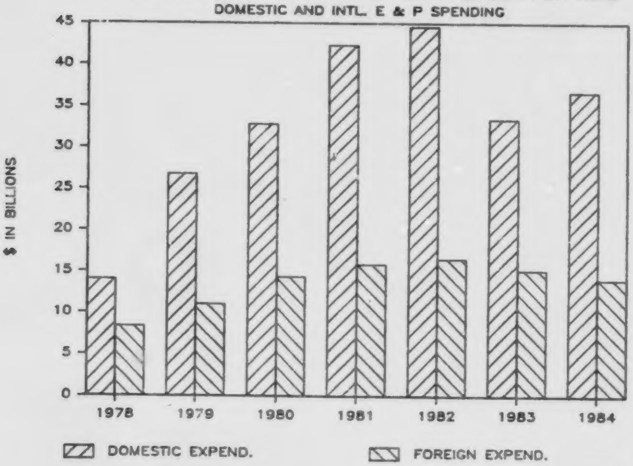
Exploration and development successes in foreign theaters remained above average last year leading to a composite find cost of $5.74 per barrel. Foreign exploration results have been consistently below the domestic trend during the 7-year interval covered in our study. In recent years our analysis points up a domestic weighted average finding cost (1982-1984) in the U. S. of $9.40 per barrel, in foreign areas $6.15/bbl., which is equivalent to a worldwide weighted average of $8.17/bbl.

The drop in 1984 finding and development costs stems from a number of factors including: 1) the incorporation of reserve additions from several "mega-mergers" completed last year, e.g. Chevron/Gulf, Mobil/Superior, Phillips/Aminoil; 2) continued pressure on the entire spectrum of oil service (drilling, completion, workover) costs; and 3) a new "religion" in oil industry capital spending as industry participants adapt to the tough fundamental environment by "high grading" exploration and development spending programs.

We note that some reserves are being "found" for the second time as it were, through the reshuffling of petroleum asset ownership in the highly active merger and acquisitio arena. Some argue that such acquisitions should be excluded from a summary of "finding costs". However, it is our opinion that prospecting on Wall Street is a valid a course of action for an oil manger as is drilling in Texas. In any event, an investor is best served by that oil company that adds petroleum reserves at the lowest ultimate cost from whatever source.

TREND IN CAPITAL EXPENDITURES

DOMESTIC AND INTL. E & P SPENDING



	1978	1979	1980	1981	1982	1983	1984	% Increase 1978-84
	----------------------Million $----------------------							
Expenditures								
U.S.A.	14,072	26,789	32,891	42,341	44,606	33,462	36,745	161
Foreign	8,399	11,058	14,367	15,684	16,525	15,165	14,044	67
Worldwide	22,471	37,847	47,258	58,025	61,131	48,627	50,789	126
	----------Million Net Equivalent Barrels--------------							
Reserves Added**								
U.S.A.	2,119	2,281	3,265	3,475	3,739	3,727	4,752	124
Foreign	2,026	1,588	2,675	2,173	2,050	2,934	2,447	21
Worldwide	4,145	3,869	5,940	5,648	5,7899	6,661	7,199	74
	---------------------Dollars/Bbl.---------------------							
Costs Per Barrel								
U.S.A.	6.64	11.74	10.07	12.18	11.93	8.98	7.73	16
Foreign	4.15	6.66	5.37	7.22	8.07	5.17	5.74	38
Worldwide	5.42	9.78	7.96	10.27	10.56	7.30	7.05	30

*Exploration, development and property acquisitions, both proved and unproved.

**Extension, discoveries, improved recovery, purchases of minerals in-place and revisions of previous estimates.

THE IMPACT OF OIL INDUSTRY RESTRUCTURING ON EXPLORATION ACTIVITY

Since the first sustained downturn in crude oil pricing got underway in 1981, a virtual tidal wave of merger and acquisition activity has swept over the energy sector. Not surprisingly, it was the sudden and dramatic reduction in investor valuation of oil shares that sparked the rapid-fire cannibalization of domestic petroleum producers. From 1979 until 1981 equity valuations for most oil shares had hovered in the stratosphere--few choice opportunities existed for purchases of reserves at attractive prices in the stock market.

Stage 1 (1981-1982)

The first two giant integrated oils to disappear from the ranks of the majors were Conoco and Marathon. Conoco succumbed after Dome Petroleum put the Company "in play" when the Canadian producer forced Conoco to retire a large portion of its shares in a swap for Conoco's Canadian Hudson Bay Oil and Gas subsidiary. A frantic three-way battle for control of Conoco erupted between Seagram, Mobil, and Du Pont which resulted in the firm being swallowed up by the large chemical producer. In late 1981, Marathon came under attack in what was the first and only hostile raid made intra-industry by another large integrated oil, Mobil. Marathon was eventually acquired by U.S. Steel, a company with less attractive reinvestment opportunities in its own basic steel business than in petroleum.

Cities Service was the first large integrated oil company to become a target of T. Boone Pickens, Jr. of Mesa Petroelum. After Mesa was retired from the scene and a proposed marriage with Gulf Oil was unilaterally aborted, Occidental Petroleum pulled off a major coup in acquiring Cities in a highly leveraged transaction.

This first stage of mega-mergers is characterized by the acquiring companies' lack of overlap with the petroleum activities of the targets. Du Pont and U.S. Steel were the preferred suitors of Conoco and Marathon, respectively, as non-petroleum firms; existing managements of these oils were assured of continued employment and a degree of autonomy. And, while Occidental was hardly Cities Service' first choice as a suitor, Oxy was primarily a foreign oil producer and Cities' domestic orientation was highly complementary.

	Petroleum Capital Expenditures ($ Millions)					%
	1980	1981	1982	1983	1984	Change*
Conoco (a)/Du Pont	$1,762	$1,103a	$2,297	$1,968	$2,136	+ 94%
Marathon(b)/U.S. Steel	947	1,499	1,078b	969	727	- 33
Cities Service(c)	1,236	1,562	1,550E,c			- 66
Occidental	925	1,030	931	951	836	

(a) Acquired in 1981.
(b) Acquired in 1982.
(c) Acquired in late 1982.
E - Estimated based on actual nine month expenditures.
* - From year of acquisition to 1984.

The table indicates that the oil and gas industry capital expenditures of Conoco and Marathon continued at roughly the same level under the new control of parents Du Pont and U.S. Steel. The elimination of Cities Service expenditures after its acquisition reflects Occidental's rapid move to trim the excessive debt burden incurred in the purchase.

Stage 2 (1983-1984)

The second stage of large oil company mergers was highlighted by intra-industry consolidation among the behemoths. Two massive domestic oils with large founding family control blocks, Getty and Superior, were swallowed when each firm's trustees opted to divest holdings. Getty, originally sought by Pennoil, was eventually purchased by reserve-poor Texaco. Superior was put on the auction block and Mobil, twice spurred in its unsuccessful maneuvers for Conoco and Marathon, placed the top bid in a friendly acquisition.

The ranking largest acquisition in corporate history ($13.2 billion) came next when Gulf Oil, previously thought to be invulnerable owing to its size, became Mesa Petroleum's next integrated oil target. Gulf, the weakest of the so-called international oil "seven sisters", was paired off in an incestuous marriage to its San Francisco-based sister Chevron.

Finally, the ranks of large domestic integrated oils was thinned further when parent Royal Dutch/Shell decided to acquire the 31% minority interest held by the public in domestic Shell Oil. This transaction, best described as a "minority squeeze-out", was initiated in 1984 and has only recently been completed.

While the analysis has some deficiencies owing to the recent nature of these transactions, a decided reduction in aggregate capital spending of roughly 22% ($3.3 billion) is observed in the combined entities compared to pre-merger levels of the companies individually. Only in the case of Royal Dutch/Shell is capital spending likely to remain relatively constant.

	Capital Expenditures ($ Millions)					%
	1980	1981	1982	1983	1984	Change*
Getty(a)	$1,345	$1,975	$1,860	$1,215E		
Texaco	2,691	3,095	3,699	3,579	3,744	- 22
Superior(b)	810	1,028	1,042	811		
Mobil	4,815	4,469	5,256	3,771	3,600	- 21
Gulf(c)	3,001	3,994	3,704	2,769		
Chevron	3,599	5,568	4,666	3,330	4,786	- 22

(a) Acquired in 1983 for $10.2 billion.
(b) Acquired in 1984 for $5.7 billion.
(c) Acquired in 1984 for $13.2 billion.
E - Estimate based on nine months actual data.
* - 1984 versus 1983 expenditures of two firms individually.

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Stage 3 (1985- ?)

The 1980's progression of large oil company mergers and liquidations escalated on such a steep trajectory that 1984 had all the characteristics of a peak. Last year, large oil company transactions (excluding the sizable activity in independent oil company consolidations) exceeded $35 billion. (See Addendum) Quite obviously such a pace was quite unsustainable; an extrapolation of this frantic level of oil mergers would inevitably lead to the diminution of the ranks of major oil companies to a select few.

Activity in the oil merger/acquisition/restructuring arena thus far in 1985 has demonstrated some striking divergences from recent history. Three large integrated domestic oil majors have undergone significant transformation -- Phillips, Unocal, and Atlantic Richfield -- but no large oil has been acquired or merged this year.

What's changed? Why are the outcomes different?

1) No large integrated oil suitor stepped forward to rescue either Phillips or Unocal as a "white knight". Either the pool of prospective purchasers is reluctant to commit to a multi-billion acquisition; or, those "players" with interest are financially tapped out of the market already. Few large oil companies have unleveraged balance sheets and have kept their "powder dry".
2) Likewise, the universe of giant non-petroleum firms which have financial wherewithal is no doubt, disenchanted with the prospect of a new foray into the petroleum sector. Managements have probably take note of the unkind treatment rendered Du Pont and U.S. Steel in stock market trading.

Phillips and Unocal were the latest subjects of Mesa Petroleum investment accumulation. Both Phillips and Unocal adopted similar strategies to enhance share value while maintaining their independence. Sizable blocks of each company's outstanding shares were repurchased at substantial market premia in debt swaps. In adddition to common dividend boosts and corporate streamlining efforts, Phillips will divest $2.0 billion of low-earning assets to bolster the balance sheet and Unocal will create a Master Limited Partnership to enhance its payout to shareholders. Meanwhile, Atlantic Richfield embarked on a bold reconfiguration and streamlining of operations that had its genesis from within before any corporate "predator" emerged.

					Capitalization					
		Mill. Shares		%	New L-T	Debt %		Dividend		
	Recent	Outstanding		Reduction	Debt	Total Cap.		$/Share		Curren
Company	Price	Before	After	in Common	(Mill.$)	Before	After	Before	After	Yiel
Atlantic Richfield	$ 59	235.0	182-173	23-27%	$4,000	25.1%	48.1%	3.00	4.00	6.8
Phillips Petroleum(a)	13	462.3	220.0	52.4	4,500	20.6	62.1	.80	1.00	7.8
Unocal Corp.	30	173.1	116.0	33.2	4,160	13.1	61.0	1.00	2.49(b)	8.3

	Proforma Earnings Per Share			P/E		Proforma Cash Flow Per Share			P/CF	
Company	1984	1985E	1986E	1985E	1986E	1984	1985E	1986E	1985E	1986E
Atlantic Richfield	$4.41	$7.40	$9.35	8.5X	6.9X	$16.55	$20.50	$25.60	2.9X	2.3X
Phillips Petroleum(a)	1.75	2.00	2.50	6.5X	5.2X	4.85	19.00	9.25	1.4X	1.4X
Unocal Corp.	4.03	3.97	4.25	7.4X	7.5X	11.68	15.75	16.55	1.9X	1.8X

(a) Adjusted for $300 million preferred dividend distribution and 3-for-1 stock split.
(b) Includes $1.20 common dividend and expected $1.29 annual distribution of Union Exploration Partners units.

In all cases, the restructuring programs instituted in 1985 by the three domestic oils will have a limiting effect on capital spending.

	Capital Expenditures ($ Mill.)			% Change
	1983	1984	1985E	'84-85
ARCO	$3,132	$3,257	$3,000	- 8%
Phillips	1,141(a)	1,387(b)	1,400	--
Unocal	1,593	1,945	1,750	-10

(a) Excludes $1,229 expenditure for acquisitions (primarily General American Oil).
(b) Excludes $1,998 expenditure for acquisitions (primarily Aminoil).

Atlantic Richfield's strategic realignment will de-emphasize high-cost frontier exploration efforts resulting in a decline by 1986 of $800 million annually in capital outlays (to $2.8 billion) versus previous plan. Phillips intends to pursue a focused approach to capital investment emphasizing oil and gas development opportunities. The $1.4 billion planned outlay this year is roughly flat with 1984, but represents a reduction of about $300 million (18%) versus pre-restructing capital intentions. Unocal plans to live within expected cash flow from operations, suggesting a moderate $200 million (10%) reduction in 1985 outlays from the peak 1984 level.

MONEY RUNS FROM UNCERTAINTY

A maxim on Wall Street states "money runs from uncertainty." We have stressed the importance of a stable political/tax policy on oil industry drilling re-investment. Our recent informal survey of major oil company capital spending intentions for 1985 indicates that the majority of firms have trimmed domestic exploration spending plans. Some firms, such as Atlantic Richfield, are making major realigments in exploration strategies to cope with a sharp downward shift in future petroleum pricing assumptions. The area most sensitive to oil price down-grading is "frontier" exploratioon,--high-cost, capital intensive, long-lead time drilling projects. The following factors were cited to acccunt for downward revisions to the majors' capital spending plans (in descending order of importance):

1) Adjustment to downward shift in oil and natural gas pricing projections.
2) Lower oil service (drilling) costs will permit desired level of physical activity for reduced capital expenditure.
3) Restructuring -- higher debt load and interest expense burden.
4) Prolonged expectation of natural gas surplus ("bubble").
5) Increased emphasis on foreign exploration theaters.
6) Shortfall in anticipated cash flow.
7) Uncertainity over FERC rulings, federal tax reform (Treasury II).

What we are seeing in the oil industry is a trend toward a much greater focus on cost containment and bringing profitability and reinvestment opportunities to the center stage among oil company managers. Capital spending intentions of the oil sector are coming down as managers adjust to difficult industry fundamentals and a highly uncertain operating environment. As major structural changes take place "dis-integration" of the big companies--the divestment of refining and marketing operations--could occur. The rationale for integration is no longer substantial. To make refining and marketing stand on its own and be profitable the industry would benefit from "dis-integration." As the oil industry focuses on reinvestment options and returns available, creative approaches to management are emerging. Many of the large oil companies as they stand today won't be the same at all in 1990. They'll be broken into smaller, more efficient pieces over time.

It's apparent that oil company managements are very much aware that there is room for improvement in the way most oil companies are run. They can't make oil and gas prices go up and they can't make appreciable gains in output volumes. In many instances, they're doing the only thing they can, they're bringing down costs--and in dramatic fashion.

ARE OIL COMPANIES UNDER UNDUE PRESSURE FOR SHORT-TERM PERFORMANCE?

The petroleum industry is an asset-based inflation-oriented sector and investors perceive the oil group as very much out of step in today's disinflationary, declining-interest-rate driven stock market. What is ironic is the reluctance of institutional investment professionals to back oil companies (majors, independents or of any ilk) which are now trading at extremely depressed financial multiples (6-8 times earnings and 2-4 times cash flow) when these same investors were wildly enthusiastic about the group when valuations were double this level in 1979 and 1980. The meanwhile, the average industrial (non-petroleum) company has been swept up in the historic 1985 bull market to a valuation equivalent to 11-15 times earnings and 7-9 times cash flow. It appears that the oil group is doomed to be treated as a stock market favorite or laggard in a contrary 180 degree lockstep relationship with the average industrial share.

It is our opinion that the shareholder revolt which has precipitated massive petroleum industry restructuring is hardly unique to the oil industry. An intriguing feature article ran in the August 13th edition of Business Week last year, "Will Money Managers Wreck the Economy?" The lead story cited negative ramifications of the increasingly short-term performance orientation of Wall Street investment portfolio managers on long-term corporate investment plans.

As money managers battle in an intensely competitive market for corporate pension funds, the performance time horizon on which they are judged has telescoped in duration. The result: portfolio turnover rates have surged and money managers have become increasingly "trigger happy". Moreover, "risk aribtrageurs" have emerged as a potent force in the stock market and as a result the amplitude of share volatility has widened.

The short-term investment tack of institutional investors does present a problem to corporate managers who must make investment decisions with long-run payoffs. In the oil sector, the development of large offshore or "frontier" petroleum accumulations may require lead times of five-to-ten years. However, while we may bemoan the short-term focus of corporate America brought about by stock market pressures, no easy solution is apparent. The imposition of legislative fiat designed to curb investor demands for near-term rewards means the end of an open and efficient market. Notwithstanding the long-run necessity of sizable oil industry investment today to assure future petroleum supplies as a matter of U.S. national energy security, we argue against government assuming the role of deciding how private capital is to be allocated.

As a businessman with an economic bent, I believe that former Chairman of the Council of Economic Advisers, Walter Heller, stated things best when he said,

> "It is hard to study the modern economics of relative prices, resource allocation, and distribution without developing a healthy respect for the market mechanism."
>
> Walter Heller (1966)

IS SPECIAL CONCERN IN WASHINGTON WARRANTED VIS-A-VIS OIL INDUSTRY RESTRUCTURING?

We believe not.

The oil industry's plowback of its cash flow into domestic oil and gas exploration is likely to decline further in coming years.

Why?

- The oil and gas price outlooks suggest further erosion in the real value of future petroleum production.
- The industry's finding costs of new reserves exceed the present value of new discoveries by a significant margin.
- Domestic petroleum reserves are in an irreversible decline, a function of the advanced state of exploitation of the resource base.
- With high finding costs and diminishing returns on exploration drilling, the industry cannot fund the $100 billion theoretically necessary to hold the domestic reserve base constant.
- The potentials for the discovery of large low-cost petroleum reserves in foreign areas are quite promising; however, onerous taxation and the political risk of expropriation are present.
- Major reserves of low-cost oil exist internationally which present a substantial damper to high-cost reserve development.

What will the oil industry do with its excess cash flow?

1) Diversification - The major oils' undeniably disastrous track record in non-petroleum acquisitions (Marcor, Reliance Electric, Kennecott, Cyprus Mining, etc.) should hold many corporate managers in check with respect to forays into non-oil businesses.

2) Master Limited Partnerships & Royalty Trusts - A case can be made for the distribution of excess cash flow from producing operations to shareholders in the form of limited partnerships and royalty trusts. Nevertheless, we doubt few major oil company managers will voluntarily make such bold moves.

3) Share Repurchases and Leveraged Buyout (LBO) Programs - Given the relatively low price-to-cash-flow multiples accorded oil shares (coupled with reasonable visibility of continuation of high levels of cash generation), it would not be surprising to see large oil companies taken private in "leveraged buyout" transactions. J. Hugh Liedtke of Pennzoil was nearly successful in concluding such a deal with Getty Oil and other LBOs may be proposed, particularly by managements which would receive large financial incentives under a LBO scheme. Meanwhile, many companies are building asset value through ongoing share repurchase programs.

ARE GREATER FINANCIAL LEVERAGE, LOWER OIL PRICES, HIGHER INTEREST RATES, OR WEAKNESS IN THE DOLLAR THREATS TO THE U.S. OIL INDUSTRY?

I - FINANCIAL LEVERAGE

The recent significant increases in oil industry long-term debt levels have received considerable attention in the financial press. Unocal's Chairman Fred Hartley railed against the industry's sudden surge in financial leverage, knocking "the replacement of the warm blood of equity with the ice water of debt."

In our opinion, while the giant mergers and massive share-repurchase programs of large oil companies have certainly resulted in weakened financial health for the industry as a whole, ample financial strength yet remains. Notwithstanding the sharp decline in fixed cost coverage ratios for firms which have completed megemergers (e.g. Chevron, Texaco, Mobil) or sizable share buybacks financed by debt (Phillips, Unocal, Atlantic Richfield), we believe these companies still have the financial wherewithal to deal with adverse fundamental developments. All of these companies have adopted stringent austerity, cost-containment programs already. The arrival of an unexpected negative development would hasten this process, possibly leading to the trimming of some "muscle in addition to the fat."

On balance, the analytical team of John S. Herold concludes that sufficient cash flow generation capacity exists among the corps of leveraged major oils.

II - LOWER OIL PRICES/HIGHER INTEREST RATES

Fortunately there is a strong correlation between directional movements in oil prices and interest rates; the linkage is not inverse. Should oil prices deterioate further, inflationary pressures would likely subside as well. Hence, we are not concerned about leveraged oil companies (the majority of which have outstanding "floating rate" debt) being whipsawed by plummeting crude oil realizations concomitant with surging interest rates.

In our view, too much attention has been focused on the oil sector's operational vulnerability to a steep plunge in world oil quotes. After all, every oil company today is devoted to becoming the "low cost supplier". And, one should recall that oil companies were profitable and viable in the early 1970's when oil was priced at $3 per barrel and in the late 1970's when oil realizations were $12 per barrel.

The most damaging implications of a further sharp petroleum price drop is the devastating impact this eventuality would have on the economics of drilling. As the world's highest cost oil producer, the United States would be hard pressed to compete in new resource development.

With respect to the national energy security issue, a conceptual case can be made for the imposition of a protectionary "Variable Oil Import Tariff" should world oil prices plunge dramatically. The economist S. Fred Singer of the Heritage Foundation has articulated the basis for such legislation.

4) Acquisitions of Proven Oil and Gas Properties - In our view, this remains the most likely case. Through proven property sales and purchases, oil reserves are redistributed to owners which can optimally exploit these assets. The purchase of existing petroleum companies represents a low-risk (development drilling) method of enlarging the petroleum reserve base, as opposed to grassroots high-risk (exploratory "wildcat") drilling.

In light of the oil industry's lackluster fundamentals, we believe it is a natural evolution that leading domestic producers with sizable proven oil and gas reserves become targets for restructuring or acquisition. We consider oil sector realignment a healthy phenomenon with numerous positives:

1) Capital is more efficiently allocated.
2) Residual exploration spending will stress "high grade" prospects.
3) Personnel reductions in the industry are warranted.
4) A shake-out of excess capacity industrywide is healthy for surviving entities.

III - DOLLAR WEAKNESS

A reversal in the herculean strength of late of the U.S. dollar is generally viewed by the oil industry as a moderate positive. Since world oil prices are denominated in dollars, the major EEC oil consuming nations have experienced a sharp increase in local currency oil costs in recent years. An erosion in the dollar's strength could translate into significantly higher profitability for oil firms with significant international operations.

This concludes my prepared statement. I would be pleased to respond to any questions that the members of the Subcommittee might have. Thank you.

TABLE B

MULTIBILLION DOLLAR OIL TRANSACTIONS

Acquiree	Acquiror	Date Announced	Date Completed	Aggregate Value ($MM)	Adjusted Price/NEB 10:1	Adjusted Price/NEB 6:1	Premium Over Unaffected Market	Price/ Cash Flow	Price/ Earnings	Price/JSH App. Worth	Adjusted Price/ Stand SEC Value
Cities Service	Occidental Petroleum	8/13/82	12/3/82	$ 4,054	$ 4.39	$ 3.34	58.8%	4.4x	4.2x	58.8%	63.7%
General American Oil Co.	Phillips Petroleum	12/20/82	3/10/83	1,456	6.45	5.11	49.7	8.0	23.7	116.0	-
Getty Oil	Texaco, Inc.	1/6/84	2/17/84	10,200	3.51	3.25	82.4	5.1	15.4	84.2	140.1
Gulf Oil	Chevron Corp.	3/5/84	6/15/84	13,231	2.57	2.23	66.7	3.5	3.7	67.1	77.0
Houston Natural Gas	Internorth	5/3/85	"Pending"	2,260	-	-	49.3	5.4	11.8	21.5	-
Marathon Oil	U. S. Steel Corp.	11/18/81	3/17/82	6,259	3.69	3.18	66.3	4.1	17.5	52.1	71.7
Phillips Petroleum	Carl Icahn	1/5/85	"Cancelled"	8,504	-	-	22.9	4.3	11.8	70.6	-
Phillips Petroleum	Mesa Partners	12/4/84	"Cancelled"	9,278	-	-	37.2	4.7	12.9	77.0	-
Shell Oil	Royal Dutch/Shell Group	1/24/84	6/7/85	5,529	4.57	3.91	45.0	4.2	10.5	71.2	102.7
Superior Oil	Mobil Corp.	3/12/84	9/28/84	5,795	7.35	5.30	36.4	4.6	26.7	98.4	150.2
Texas Pacific Oil Co.	Sun Company	4/7/80	9/8/80	2,300	13.33	11.76	-	-	-	-	-
Unocal Corp.	Mesa Partners	4/8/85	"Cancelled"	9,381	-	-	35.0	4.3	13.4	72.2	-
Conoco Inc.	Dupont	7/6/81	9/30/81	7,486	2.59	2.29	72.8	3.4	7.9	54.3	61.6
				Total for Completed Acquisitions: 56,310							

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Mr. **Sharp**. I now welcome Mr. Pickens. We will be happy to hear from you.

STATEMENT OF T. BOONE PICKENS, JR.

Mr. **Pickens**. Mr. Chairman, it is a pleasure to appear before you today to discuss the current trends in the U.S. energy industry. I ask that my written statement be made a part of the record. In particular, I will try to focus on the restructuring which has been occurring in the industry for the past few years.

I might briefly tell you something of my credentials. I am a geologist. I have been in the industry for 35 years, founded Mesa Petroleum, the second largest independent oil company in the United States It was founded with $2,500 paid in capital and now has assets of $4 billion.

I feel that the members of this subcommittee are some of the true energy experts in Congress today, and I know you have spent countless hours studying this sector of the economy and searching for policies that will serve the interests of the energy consumer and our national security. Moreover, many of you represent districts in producing states and have firsthand knowledge of the importance of the industry to the economies of Texas, Oklahoma, Louisiana, Kansas and New Mexico.

I feel I share this perspective. I grew up in the "oil patch" and had my first oilfield job as a roughneck. I am a geologist by training, which I mentioned. Mesa has always prided itself in its fine exploration record. I want a strong, vibrant and productive domestic energy industry as much as anyone does.

However, the basic economic forces affecting the industry have changed radically in the last few years. The industry must change also. Either we accept this fact and efficiently manage our energy resources with an eye toward the future or we will find that the energy industry which we all value as a national asset wiil have change imposed upon it.

The changes in the basic economic factors currently affecting the industry are well known. First, crude prices have dropped precipitously from 1980 spot market high of $4.60 to the current market price of West Texas crude of $27.10. Second, the demand for energy and for oil in particular has shifted downward, as the world adapted to high-cost energy supply. And third, economically feasible oil and gas exploration prospects in the United States have dwindled.

This last factor, diminishing exploration prospects, has been questioend by some. However, the record is clear, and is reflected in today's high finding costs. For example, an examination of the major oil companies' capital budgets and production performance by Salomon Bros. in May 1984 entitled, "Oil Company Mergers, Explorations and Implications" details the problem. In a section of this report entitled "Limited Opportuniteis for Reinvestment," the author concludes:

> Over the past several years most major oil companies have been devoting larger shares of their capital budgets to petroleum exploration and development than at any time in the 1970's. This development has been problematic. Marginal returns on investment from domestic exploration programs have been dropping since 1980. It appears that too much money has been spent in too few areas. Our investigation of the 6-year "finding cost" record*** of the 30 large petroleum companies shows that

the weighted average of the cost of exploration for and developing a barrel of oil in the United States jumped from $5.33 in 1978 to $13.98 in 1982. These costs are probably understated because they do not take lease acquisition costs into account.

Therefore, as a result of changed energy industry economics, drilling exploration activity has plummeted. In December 1981, 4,531 rigs were operating, but today only 1,900 rigs are active. I don't predict any significant increase in drilling activity in the near future unless crude prices increase, which no one is expecting. In fact, I believe drilling activity will decline even further.

To the industry's credit, many companies are reading these signs and taking action to prepare for the future. In just the last 4 months the following companies have publicly announced major restructuring plans: Arco, Sohio, Diamond Shamrock, and others. These companies are not acting out of fear of Boone Pickens but because they want to do the best job for their stockholders. At the same time, they are serving the best interests of consumers and taxpayers in ensuring there will be an efficient, competitive U.S. energy industry in the future.

I am not alone with regard to this view of domestic exploration prospects. From the Oil & Gas Journal of October 15, 1984, Tennaco president, Philip Oxley, told the Cambridge Research Associates seminar in Washington:

> We are really with our backs to the wall to think of places domestically we could look with a reasonable degree of success. For most U.S. companies the grass looks greener in international fields.

Oxley noted the East Coast Urasic Trend has yielded only dry holes. The promising Mukluk structure off Alaska had all the right ingredients but oil, and indirectly the deep gulf or Mexican tracts can justify expenses. He is also pessimistic about U.S. enhanced oil projects. Hostile takeover activities are just another sign of these forces at work in the marketplace. To argue that this activity is harmful to the American energy industry is simply incorrect.

As Harvard Business School Prof. Michael Jensen stated in his article, "Takeovers Reduce Waste in the Oil Industry," July 16, 1985, those who criticize takeovers in the energy industry: "are confusing the messenger with the message. Changes in industry conditions mandated these adjustments long ago." That was a quote by Jensen. As I have stated on several other occasions, our undiscovered domestic hydrocarbons will not disappear. In fact, it may be far wiser to produce our remaining reserves at a moderate pace and postpone our complete dependence on foreign supplies.

We must keep in mind that the free world's highest developed cost oil reserves are now being produced at or close to capacity while some of its lowest cost reserves, such as the Middle East, are shut in because of pricing concerns. I ask you gentlemen, why do we want to rush to develop the remaining reserves in the United States.

Further, the restructuring that is occurring in the energy industry and particularly in the major integrated sector of the industry could create more opportunity for the independent oil and gas producers. If a more efficiently managed major oil company reduces its exploration budget—for whatever reason—this will free up drilling prospects for independents who are the real risk takers in the energy business and not the only risk-takers; the independents have found 80 percent of the oil and gas in the United States.

Bob Anderson, with Arco, was quoted recently as saying, "The golden days of the petroleum industry are over." A further restructuring that many have been criticized is the increase in debt on the balance sheets of many oil companies. Some asked whether or not this reduces the availability of capital for exploration prospects. This is the wrong question. We should be asking can oil companies continue to waste shareholders' capital on infeasible drilling projects or diversification into nonenergy businesses such as well-drilling presently in the Devonian Basin about 300 or 400 miles offshore, that had to have a special helicopter designed to be able to get from the shore base to the platform.

Actually, the well is drilling closer to Russia than it is to the United States. We should view the occurrence of additional debt as a consequence of the changing dynamics of oil and gas exploration.

When the management of energy companies cannot prudently utilize the capital of its shareholders in oil and gas exploration projects or in other phases of the energy business, then the shareholders should receive the best return on their capital through its application by management in other endeavors. We should not force management to invest in uneconomic drilling prospects simply to fulfill some perception that we have of how energy companies should operate. Let the economics dictate. There is plenty of capital and therefore plenty of enterpreneurs to move into the vacuum when the economics are right for the industry.

In other words, we must not lose sight of the benefits of a more efficient energy industry. Professor Jensen, in the article I mentioned earlier, outlined some of these advantages:

> [F]irms in the [energy] industry were led to merge and in the merging process they returned huge amounts of capital to investors and reduced excess expenditures on exploration, development, refining and distribution. The resulting gains in efficiency have been large. Total gains to the shareholders in the Gulf/Chevron, Getty/Texaco, and DuPont/Conoco mergers, for example, were over $17 billion. Much more is possible. For example, estimates by Allen Jacobs of the University Texas-Austin and MIT indicate total potential gains of $242 billion (60 percent of market value) from eliminating current inefficiencies in the forty-three largest firms in the oil industry.

In closing, I want to emphasize the crucial role that the energy industry has played in the American business scene. Traditionally, the enegy industry has attracted business leaders with vision who are willing to take risks—often the biggest risks in the U.S. economy. It is that risk-taking that helped find the west Texas fields in the 1930's and developed the Alaskan North Slope in the 1970's. But the progress the energy industry has made is a direct result of our present enterprise system and open capital markets. It is the strength of not only the industry but our economy as a whole.

Somewhere along the line the leaders in the industry lost sight of this heritage. As the eastern U.S. exploration chief for Phillips recently put it in the Wall Street Journal of June 7, 1985, "[W]e just got too big, bureaucratic and inefficient * * *."

I believe the energy industry and the investing public appreciate this condition, and will force the adjustments which are necessary to preserve a future for the U.S. energy industry. I urge Congress to avoid interfering with this process.

Thank you. I would be pleased to answer any questions you might have.

Mr. **Sharp**. Thank you very much, Mr. Pickens.

[The prepared statement of Mr. Pickens follows:]

Statement of T. Boone Pickens, Jr.
President and Chairman of the Board
Mesa Petroleum Company
United States House of Representatives
Subcommittee on Fossil and Synthetic Fuels
Energy and Commerce Committee
July 30, 1985

Mr. Chairman:

It is a pleasure to appear before you today to discuss the current trends in the U.S. energy industry. In particular, I will try to focus on the restructuring which has been occurring in the industry for the past few years.

I feel that the Members of this Subcommittee are some of the true energy experts in Congress today. I know you have spent countless hours studying this sector of the economy and searching for policies that will serve the interests of the energy consumer and our national security. Moreover, many of you represent districts in producing states and have firsthand knowledge of the importance of the energy industry to the economies of Texas, Oklahoma, Louisiana, Kansas and New Mexico.

I feel I share this perspective. I grew up in the "oil patch" and had my first oilfield job as a roughneck. I am a geologist by training, and Mesa has always prided itself on its fine exploration record. I want a strong, vibrant and productive domestic energy industry as much as anyone.

However, the basic economic forces affecting the industry have changed radically in the last few years. The industry must change also. Either we accept this fact, and efficiently manage our energy resources with an eye toward the future, or we will find that the energy industry -- which we all value as a national asset -- will have change imposed upon it. In other words, we can adapt to present conditions, or we can wait and hope that history will repeat itself -- an attitude that some of our smokestack industries seem to have taken.

The changes in the basic economic factors affecting the industry which have changed are well-known. First, crude prices have dropped precipitously from a 1980 spot market high of $41.60 to the current market price of West Texas crude of $27.10. Second, the demand for energy, and for oil in particular, has shifted downward as the world adapted to high cost energy supply. Third, economically feasible oil and gas exploration prospects in the U.S. have dwindled.

This last factor -- diminishing exploration prospects -- has been questioned by some. However, the record is clear and is reflected in today's high finding costs. For example, an examination of the major oil companies capital budgets and production performance by Salomon Brothers in May, 1984 entitled "Oil Company Mergers: Explanations and Implications" details the problem. In a section of this report entitled "Limited Opportunities for Reinvestment" the author concludes:

> Over the past several years, most major oil companies have been devoting larger shares of their capital budgets to petroleum exploration and development than at any time in the 1970's. This development has been problematic. Marginal returns on investment from domestic exploration programs have been dropping since 1980. It appears that too much money has been spent in too few areas. Our investigation of the six year "finding cost" record . . . of 30 large petroleum companies shows that the weighted average of the cost of exploring for and developing a barrel of oil (or its natural gas equivalent) in the U.S. jumped from $5.33 in 1978 to $13.98 in 1982. These costs are probably understated, because they do not take lease acquisition costs into account.

Therefore, as a result of changed energy industry economics, drilling exploration activity has plummeted. In December 1981, 4,531 rigs were operating, but today only 1,900 rigs are active. I don't predict any significant increase in drilling activity in the near future unless crude prices increase, which no one is expecting. In fact, I believe drilling activity will decline even further.

Another consequence of the changed economics of this industry is the divorcement of the downstream and upstream activities. The subsidization of the refining operations by the integrated companies cannot continue much longer.

To the industry's credit, many companies are reading these signs and taking action to prepare for the future. In just the last four months the following companies have publicly announced major restructuring plans: Arco, Sohio, Diamond Shamrock, and Burma Oil. These companies are not acting out of fear of Boone

Pickens but because they want to do the best job for their stockholders. At the same time, they are serving the best interests of consumers and taxpayers, and ensuring there will be an efficient, competitive U.S. energy industry in the future.

Hostile takeover activity is just another sign of these forces at work in the marketplace. To argue that this activity is harmful to the American energy industry is simply incorrect. As Harvard Business School Professor Michael Jensen stated in his recent article, "Takeovers Reduce Waste in the Oil Industry" (July 16, 1985), those who criticize takeovers in the energy industry:

> are confusing the messenger with the message. Changes in industry conditions mandated these adjustments long ago. The takeover market is helping to bring them about in a situation in which the usual disciplinary functions of the product and capital markets cannot accomplish the task.

Therefore, given the low price of crude oil, the low demand for petroleum products and high oil and gas finding costs, the energy industry of the 1990's will not and should not resemble the industry of the late 1970's. When and if these conditions change, exploration trends will also change. Until these conditions change, a decline in exploration is not an entirely bad development.

As I've stated on several other occasions, our undiscovered, domestic hydrocarbons will not disappear. In fact, it may be far wiser to produce our remaining reserves at a more moderate pace and postpone our complete dependence upon foreign supplies. We must keep in mind that the free world's highest cost developed oil reserves are now being produced at or close to capacity, while some of its lowest cost reserves (such as in the Middle East) are shut in because of pricing concerns.

This view is shared by many observers of the industry. For example, a recent Drexel Burnham Lambert report entitled "Petroleum - Restructuring in Perspective" states:

> The intensive production of reserves in many non-OPEC areas, including the United States and the United Kingdom, and in some OPEC nations including Indonesia and Nigeria will probably speed [the shift to Persian Gulf exporters].

Further, the restructuring that is occurring in the energy industry, and particularly in the major, integrated sector of the industry, could create more opportunity for the independent oil and gas producer. If a more efficiently managed major company reduces its exploration budget -- for whatever reason -- this will free up drilling prospects for independents who are the real risk takers in the energy business. Independents, as you know, already drill eighty percent of the exploration wells in the domestic U.S.

A further consequence of restructuring that many have criticized is the increase in the amount of debt on the balance sheets of many oil companies. Some ask, won't this additional debt reduce the availability of capital for exploration projects? In my opinion this is the wrong question. We should be asking instead, can oil companies continue to waste shareholders' capital on infeasible drilling projects or diversifications into non-energy businesses?

We should view the incurrence of additional debt as a consequence of the changing dynamics of oil and gas exploration. When the management of energy companies cannot prudently utilize the capital of their shareholders in oil and gas exploration projects, or in other phases of the energy business, then the shareholders should receive the best return on their capital through its application by management in other endeavors. The repurchase of stock, the purchase or sale of assets, or other financial transactions that can free up the value of a company's assets are options that the management of energy companies should consider.

We should not force management to invest in uneconomic drilling prospects simply to fulfill some perception that we have of how energy companies should operate. We should not make energy companies immune to the economic forces and the realities of the capital markets that other sectors of the economy must follow. If we do, we will hamper the industry's ability to adapt to changing economic conditions and speed its demise.

In other words, we must not lose sight of the benefits of a more efficient energy industry. Professor Jensen, in the article I mentioned earlier, outlines some of these advantages:

> [F]irms in the [energy] industry were led to merge and in the merging process they returned huge amounts of capital to investors and reduced excess expenditures on exploration, development, refining and distribution. The

> resulting gains in efficiency have been large. Total gains to the shareholders in the Gulf/Chevron, Getty/Texaco and DuPont/Conoco mergers, for example, were over $17 billion. Much more is possible. For example, estimates by Allen Jacobs of the University Texas-Austin and MIT indicate total potential gains of $242 billion (60% of market value) from eliminating current inefficiencies in the forty-three largest firms in the oil industry.

Of course, this capital is put back into the economy and is available for the full range of investment opportunities our economy affords, including home mortgages, stock purchases and drilling partnerships. Focusing on just one statistic, such as an increased debt level in the energy industry, ignores the enormous benefits resulting from a more efficient energy industry.

On March 21, 1984, Energy Secretary Hodel agreed with this view when he stated in a letter to Senator Howard Baker (R-TN) that:

> We believe there may be a strong possiblity that the newly combined [energy] firms could be more effective in exploration and development of energy resources. We presently see no reason why energy company mergers should be treated differently from other types of mergers, which frequently can result in consolidating and strengthening firms in all sectors of our economy. I am concerned that interference with such energy investments would only drive available resources from the energy sector.

The Senate Energy Committee reached a similar conclusion in its July, 1984 report, "Impact of Oil Company Mergers":

> Oil company mergers potentially can produce a number of benefits: increased operating efficiencies; an increase in revenues available for exploration and development; and the acquisition of certain divested assets by smaller oil companies.

I also do not see this restructuring as interfering with the long range needs of the industry or hampering its ability to plan for the future. In fact, the chief economists at the SEC recently looked at the impact of free and open capital markets upon long term planning throughout the economy. These economists, Gregg Jerrell and Kenneth Lehn, found in a January 22, 1985 study that there was no correlation between an increase in institutional ownership -- and the expected increased pressure for immediate performance -- on corporate long term planning. They expanded upon this study in a Wall Street Journal article on May 1, 1985, entitled "Takeover Threats Don't Cramp Long-Term Planning". They summarized their findings as follows:

> The aggregate data revealed that as average institutional ownership has increased, so has the average R&D to revenue ratio. Thus, there is no evidence that the increasing institutional ownership has induced companies to reduce their R&D programs.

In closing, I want to emphasize the crucial role that the energy industry has played in the American business scene. Traditionally, the energy industry has attracted business leaders with vision who are willing to take risks -- often the biggest risks in the U.S. economy. It's that risk-taking that helped find the West Texas fields in the 1930's and developed Alaska's North Slope in the 1970's.

But the progress the energy industry has made is a direct result of our free enterprise system and open capital markets. It's the strength of not only the industry but our economy as a whole.

Somewhere along the line the leaders in the industry lost sight of this heritage. As the eastern U.S. exploration chief for Phillips recently put it in the Wall Street Journal (June 7, 1985), "[W]e just got too big, bureaucratic and inefficient . . . ."

I believe the energy industry and the investing public appreciate this condition and will force the adjustments which are necessary to preserve a future for the U.S. energy industry. I urge Congress to avoid interfering with this process.

Thank you. I would be pleased to answer any questions you might have.

Mr. SHARP. We now welcome Dr. Magoshes.

STATEMENT OF SANFORD L. MARGOSHES

Mr. MARGOSHES. I would appreciate it if my full statement be made a part of the record.

Mr. Chairman, it is a great pleasure to be here. Although affiliated with Shearson Lehman Bros. as its senior oil analyst, I would like to offer my observations as an interested private person.

Restructuring and the decline of the U.S. oil industry are clearly interrelated. They represent two aspects of the same phenomenon—consolidation in a mature industry. Restructuring is occurring, in part, because the economic opportunities for profitable growth are being extinguished and firms are struggling to adjust—either through repatriation of capital to owners or through efforts to fend off hostile takeover, real or imagined.

Restructuring, per se, need not diminish the prospects for replacement and growth in the U.S. oil industry. On the contrary, restructuring motivated by moves to increase efficiency, be it elimination of redundancy in personnel, facilities or overlapping exploration programs, is a positive, healthy part of the process of consolidation in a maturing industry.

Restructuring is more than a Wall Street buzzword. Restructuring is a dynamic, and sometimes radical, process of change involving stock repurchase—frequently through massive injections of debt, asset spin-off and sale, dividend increases, and programs of rationalization of operations whose implications are not always readily apparent. In the oil industry, the rash of restructurings raises fundamental questions about the future, and perhaps survival, of the industry itself. I would like to focus on two major concerns: The excessive use of debt in restructuring and the argument that the dangers of restructuring are exaggerated since cheap imported oil is a readily available substitute for falling domestic production.

There is little doubt that restructurings financed by excessive debt accelerate the tendencies toward liquidation of the U.S. oil and gas industry.

I have just completed a very informal survey of about seven or eight companies, and I have lumped Unocal, Phillips, and Arco's exploration program, the amount that they are budgeting as a tentative estimate for 1985, and I find that in the United States exploratory expenditures will decline approximately 20 percent. On the other hand, I have added in four large companies which have been unaffected in any way whatsoever by acquisitions or restructuring, and I find that they are anticipating a 13-percent increase.

I am not saying those numbers are perfect, but I think they are indicative that restructuring, especially where substantial excessive debt is involved, can reduce exploration expenditures.

While judicious use of debt can clearly enhance an enterprise's resources, the excessive use of debt vitiates the firm, weakening it and diverting its attention from pursuing its original goals of replenishment and growth.

Restructuring predicated on debt financing incorporates large elements of liquidation. The sizable substitution of debt for equity represents repatriation of capital to the owners, and in the process of reducing the equity base it diminishes the growth potential of the firm. Such restructuring imposes a substantial and oppressive burden of debt service, which drains the financial and managerial energies of the firm away from the search for and the development of oil and gas.

To succeed, restructuring designed to beat off a takeover attempt, real or imagined, must preempt the mechanism by which the takeover is effectuated. The mechanism of takeover is to use debt—some cash up front with junk bonds, or other debt instruments, as the essential financing medium—to finance the buyout. Excessive debt translates into liquidation. Liquidation means less moneys spent for oil and gas.

Another critical issue affecting the national interest is whether the ability of the United States to import cheap foreign oil vitiates any adverse effects which restructuring may inflict on the vitality of the domestic indsutry. Since restructuring is part of the inevitable process of consolidation and liquidation of a mature industry, why not import cheap foreign oil instead of searching for high-cost uneconomic oil in the United States? Why not accept the inevitabtle that the U.S. exploration effort is winding down, because the attractive opportunities to explore are fewer and farther between?

From a narrow economic point of view, it is difficult to argue against increased importation of any commodity which another nation can produce more efficiently. However, today, we are more and more sensitive to how increasing imports of oil can only exacerbate our balance-of-payments problems.

It is also evident that from the broad national interest standpoint of military strength and political independence, a strong case can be made for keeping reliance on imported oil within bounds. One thing is abundantly clear. There is a virtual inevitability of our growing dependence on OPEC producers, especially the Persian Gulf, in coming decades.

The inexorability of this growing dependence, which would restrict our energy options, could eventually limit our independence of political action. The Persian Gulf producers, and therefore OPEC, are amost certainly likely to reestablish their hegemony over world oil output and pricing. Two-thirds of the entire world's proved reserves are in the hands of OPEC today, and this proportion will rise as non-OPEC reserves are depleted relatively rapidly. Some 84 percent of OPEC reserves are concentrated in the Middle East.

In the long run, our Nation must develop alternative energy sources, if we are to maintain a high standard of living and freedom of political action. Should we encourage corporate and economic changes in the domestic oil industry which hasten the inevitable? Or should we buy time—paying for it with the higher costs of prolonging the U.S. industry—in order to enable a more orderly transition to an alternative energy sources?

Crude oil prices, an exogenous factor, are the key point in determining the level of the finding efforts. An uncertain price outlook means a lower level of exploratory activity since the risk-adjusted prospects become less attractive as the allowance for risk and uncertainty—the discount rate—is raised. Exploration activity is enormously sensitive to and adversely affected by falling crude prices since a firm's cash flow is impaired and there is less discretionary cash available for reinvestment in the search for and development of hydrocarbons.

The Phillips Co. has indicated, for example, that:

> Radically lower crude oil prices would result in significant reductions in capital expenditures on an industrywide basis. If the benchmark crude oil prices were reduced to $20 per barrel, the company expects that its net income would be substantially reduced, and its common stock dividend would be eliminated.

The oil industry is a depleting extractive business. It is necessary to run fast in order to stand still. If our Nation is to maintain even its current level of oil and gas output, which still makes us potentially heavily dependent on politically insecure overseas supplies as non-OPEC production declines, it is essential that we mount a massive, sustained effort at developing and finding new oil and gas reserves to replace those reserves which are being produced.

As the oil becomes more difficult to find, as the capital requirements grow, and as the gestation time lengthens in a search for and development of oil, the need or confidence and marketability of domestic oil at acceptable prices becomes a greater imperative. A steady course of national energy policy, including import policy, which would create an atmosphere of confidence, would appear desirable and perhaps essential.

Thank you, Mr. Chairman.

Mr. Sharp. Thank you very much, gentlemen.

[The prepared statement of Mr. Margoshes follows:]

THE IMPACT OF OIL INDUSTRY RESTRUCTURING ON DOMESTIC PRODUCTION

STATEMENT OF DR. SANFORD L. MARGOSHES

SHEARSON LEHMAN BROTHERS, INC.

Mr. Chairman, it is a great pleasure to be here. Although affiliated with Shearson Lehman Brothers as its Senior Oil Analyst, I would like to offer my observations as an interested private person.

Restructuring and the decline of the U.S. oil industry are clearly interrelated. They represent two aspects of the same phenomenon -- consolidation in a mature industry. Restructuring is occurring, in part, because the economic opportunities for profitable growth are being extinguished and firms are struggling to adjust -- either through repatriation of capital to owners or through efforts to fend off hostile takeover, real or imagined.

Restructuring, per se, need not diminish the prospects for replacement and growth in the U.S. oil industry. On the contrary, restructuring motivated by moves to increase efficiency, be it elimination of redundancy in personnel, facilities or overlapping exploration programs, is a positive, healthy part of the process of consolidation in a maturing industry.

Restructuring is more than a Wall Street buzzword. Restructuring is a dynamic, and sometimes radical, process of change involving stock repurchase (frequently through massive injections of debt), asset spin-off and sale, dividend increases and programs of rationalization of operations whose implications are not always readily apparent. In the oil industry, the rash of restructurings raises fundamental questions about the future and perhaps survival of the industry itself. I would like to focus on two major concerns: the excessive use of debt in restructuring and the argument that the dangers of restructuring are exaggerated since cheap imported oil is a readily available substitute for falling domestic production.

There is little doubt that restructurings financed by excessive debt accelerate the tendencies toward liquidation of the U.S. oil and gas industry.

While judicious use of debt can clearly enhance an enterprise's resources, the excessive use of debt vitiates the firm, weakening it and diverting its attention from pursuing its original goals of replenishment and growth.

Restructuring predicated on debt financing incorporates large elements of liquidation. The sizable substitution of debt for equity represents repatriation of capital to the owners, and in the process of reducing the equity base it diminishes the growth potential of the firm. Such restructuring imposes a substantial and oppressive burden of debt service, which drains the financial and managerial energies of the firm away from the search for and development of oil and gas.

Restructurings motivated by attempts to resist takeover virtually by definition require the injection of excessive amounts of debt, or else the effort to fend off hostile takeover will fail.

To succeed, restructuring designed to beat off a takeover attempt (real or imagined) must preempt the mechanism by which the takeover is effectuated. The mechanism of takeover is to use debt (some cash up front with junk bonds or other debt instruments as the essential financing medium) to finance the buyout. Hence the firm which restructures in order to prevent its takeover must substitute huge volumes of debt -- for equity -- in order to preempt that mechanism from being used against it by the raider. This translates into excessive debt, and excessive debt is tantamount to liquidation as far as the search for and development of new oil and gas is concerned.

Restructurings also are characterized by efforts to make the process appealing to investors. Dividend increases are not uncommon. This represents another source of leakage; draining cash which would otherwise be available for reinvestment in the search for oil and gas. This is not to say that it is not in the interest of the shareholder to repatriate capital when the economic incentives of reinvestment become decreasingly attractive. What we are contending is that the restructuring accelerates this repatriation process and hence the liquidation of the U.S. oil and gas industry.

In passing, one might note the mistaken belief that restructuring necessarily benefits all shareholders. The interests of "short-term" and "long-term" investors diverge when a sale of assets representing partial liquidation is mandated by the economic necessities of huge incremental debt. While the rise in stock price resulting from restructuring or a takeover deal made possible only through the extensive use of borrowed money will benefit the short-term investor, the long-term investor may well suffer. Only short-term investors -- including those who jump on board based just on the technical pattern of rising stock prices -- are sure to benefit.

On the other hand, to the extent that assets must be liquidated to service debt or preserve the integrity of the firm's capital structure, a real cost is imposed on the long-term owner of the business. Partial liquidation means that the original stream of benefits from the company's assets is being telescoped into the visible present at the expense of the future; what is not readily observed are the lost opportunities and foregone benefits down the road.

In addition, a high debt to total capital ratio injects a significant new uncertainty into the projected earnings stream, thus impairing its quality. Leverage is a "two-edged sword". In difficult times high interest charges can wreak havoc on reported earnings, while the need to repay the debt can create a cash-flow leakage out of the energy industry that will diminish its ability to replenish and grow, affecting all parties to the process -- shareholders, employees, consumers, peripheral industries and the nation as a whole.

Another critical issue affecting the national interest is whether the ability of the United States to import cheap foreign oil vitiates any adverse effects which restructuring may inflict on the vitality of the domestic industry. Since restructuring is just part of the inevitable process of consolidation and liquidation of a mature industry, why not import cheap foreign oil instead of searching for high-cost, uneconomic oil in the United States? Why not face the facts — domestic oil production has peaked, and there is no way that we will be able to replace the reserves we are producing at an economic cost. Why not accept the inevitable that the U.S. exploration effort is winding down because the attractive opportunities to explore are fewer and further between?

From a narrow economic standpoint, it is difficult to argue against increased importation of a commodity which another nation can produce more cheaply. However, today we are more and more sensitive to how increasing imports of oil can only exacerbate our balance of payments problems. It is also evident that from the broad national interest standpoint of military strength and political independence, a strong case can be made for keeping reliance on imported oil within bounds. One thing is abundantly clear, there is a virtual inevitability of our growing dependence on OPEC producers, especially the Persian Gulf in coming decades. The inexorability of this growing dependence, which would restrict our energy options, could eventually limit our independence of political action. The Persian Gulf producers and therefore OPEC are almost certainly likely to reestablish their hegemony over world oil output and pricing. Two-thirds of the entire world's proved reserves are in the hands of OPEC today, and this proportion will rise as non-OPEC reserves are depleted relatively rapidly. Some 84% of OPEC reserves are concentrated in the Middle East.

In the long run, our nation must develop alternative energy sources, if we are to maintain a high standard of living and freedom of political action. Should we encourage corporate and economic changes in the domestic oil industry which hasten the inevitable? Or should we buy time (paying for it with the higher costs of prolonging the U.S. industry) in order to enable a more orderly transition to alternative energy sources?

Why not import more oil today so we can save our own resources for a future time when they will be needed even more? Once again, there is seemingly some merit to this view, but it must be borne in mind that the maintenance of a healthy active complex domestic oil industry requires constancy of purpose and commitment. The U.S. oil industry can't be turned on and off like a faucet. It demands predictability because of the long leadtimes (5-10 years) in the exploration part of the exploration/production cycle alone. This complex industry, which is highly technological, demands commitment to providing and maintaining skilled dedicated people such as geologists, reservoir engineers and drilling experts. The industry is highly capital intensive and requires long-term financing, especially as we drill deeper, go offshore and move into more difficult frontier areas.

The oil industry is a depleting extractive business. It is necessary to run fast in order to stand still. If our nation is to maintain even its current level of oil and gas output (which still makes us potentially heavily dependent on politically insecure overseas supplies as non-OPEC production declines), it is essential that we mount a massive sustained effort at finding and developing new oil and gas reserves to replace those reserves which are being produced.

As the oil becomes more difficult to find, as the capital requirements grow and as the gestation times lengthen in the search for and development of oil, the need for confidence in marketability of domestic oil at acceptable prices becomes a greater imperative. A steady course of national energy policy, including import policy, which would create an atmosphere of confidence, would appear desirable and perhaps essential.

Essentially, consolidation in the oil industry is a response to flagging demand on one hand and increasing cost of supply on the other. However, the pace of this "consolidation" or "liquidation," however, is cause for concern. Estimated crude oil reserves in the United States have fallen from the peak of 39 billion barrels in 1971 to 27.3 billion barrels at the end of 1984. The shot in the arm provided by Prudhoe Bay was short-lived, and the current level of reserves is now 10% below where we were before that extraordinary discovery.

The nub of maturation and decline in the U.S. oil industry is the sharply escalating marginal cost of adding the next increment of reserves and eventually production. In rough terms, the average cost of finding a barrel of oil in the U.S. has risen from $1.00 in the early 1970s to about $10.00 or more today. In an environment of uncertainty about crude oil prices, it becomes increasingly difficult to justify spending money on exploration projects whose promise of return in barrels found per dollar of outlay gets smaller and smaller with each passing year.

The crude oil price is the key parameter determining the level of intensity of the finding effort. An uncertain price outlook means a lower level of exploratory activity since the risk-adjusted prospects become less attractive as the allowance for risk and uncertainty (the discount rate) is raised. Exploration activity is enormously sensitive to and adversely affected by falling crude prices since the firm's cash flow is impaired and there is less discretionary cash available for reinvestment in the search for and development of hydrocarbons. Phillips Petroleum has indicated, for example, that "radically lower crude oil prices would result in significant reductions in capital expenditures on an industry-wide basis. If the benchmark crude oil price were reduced to $20 per barrel, the Company expects that its net income would be substantially reduced and its common stock dividend would be eliminated."

In summary, restructuring per se cannot be faulted. On the contrary, it should be applauded, except when it involves excesses which weaken the fabric of the oil industry and the nation. These excesses include, most importantly, the substitution of massive dosages of debt for equity. To find hydrocarbon reserves requires huge outlays of risk capital and the will to undertake long lead-time projects. The danger of restructurings and those mergers involving heavy resort to debt is that the financial resources and the determination to commit these resources will be dissipated.

To a less significant degree, restructuring can also promote liquidation through the increases of dividend payments or the repurchasing of stock to the point where the cash available for capital spending is sharply reduced and the viability of the company as a going concern is placed in jeopardy. On balance, informed investors, private as well as institutions, are the best protection against these potential abuses.

There is seemingly an inevitability about the eventual decline and liquidation of the domestic oil industry. A clear and steady course of national energy policy, however, could prevent undue acceleration of this trend.

Thank you, Mr. Chairman.

Sanford L. Margoshes
July 30, 1985

Mr. **SHARP**. Let me ask a couple of questions. I will recognize my colleague in a moment.

Dr. Margoshes, you have raised concerns that have been argued about in this country for 15 years or better. But I am not sure that you answered your own questions, and we have great difficulty answering those questions. I wanted to see if you will give us a little further insight.

Are you suggesting that because of the generally accepted sense that there will be a growth in U.S. imports of oil, and further import dependence, that we should take steps like establishing an import fee or something else that would establish a price level? Or are you just suggesting that we let the cycle run?

Mr. **MARGOSHES**. What I am suggesting is an active omission rather than an active commission. An import duty is an active commission, and it is an intervention in market forces.

Mr. **SHARP**. Right.

Mr. **MARGOSHES**. The free play of enterprise. What I am suggesting is that we should not encourage the forces at play which means that we are going to have liquidation for the U.S. oil industry. Anything that we do that in a sense sanctions the restructuring, utilizing debt excessively, to me, accelerates the trend toward liquidation.

What I am suggesting is moral suasion, making investors aware that there are pitfalls to restructuring as well as benefits, and also it would not be out of order I think to consider a tax policy which encourages exploration. Perhaps a 200-percent amortization of exploration expense. I have never heard that recommended. I have thought of it, incidentally, since my early days at Shell in the mid-1950s. Instead of statutory depletion, which, in effect, is a reward for production, why not reward the search for and development of oil and gas.

Mr. **SHARP**. To go back——

Mr. **PICKENS**. I would second that, the 200 percent.

Mr. **SHARP**. Seize that opportunity right now.

Let me go back. Even though you are concerned about the debt that comes from restructuring and the battles over mergers, you are not suggesting that we seek to actively and legislatively interfere with that activity?

Mr. **MARGOSHES**. That is correct. I would not recommend interfering.

Mr. **SHARP**. That is what I was trying to get at.

Run past me your tax proposal again, since I am a little slow on taxes.

Mr. **MARGOSHES**. For a very, very long time I have believed that if you want to find more oil and gas in this country, you should give a tax incentive explicitly for that aspect of the finding and development process that relates to the search for oil and gas, and that is the exploration. And therefore I would recommend something on the order of say a 200-percent amortization. For every dollar you spend on the search in the exploration function, you get $2 of tax credit.

Mr. **SHARP**. How do you feel about the tax bill that we in Congress are facing? I will give the other gentlemen a chance to respond to this, too. I realize we are here to discuss restructuring, but we have gotten into talking about other things as well. We now have before Congress, tax proposals designed to take away the investment tax credit which affects this industry as well as others. Do you believe that would have a negative impact? Would you like to respond to that?

Mr. **Margoshes.** I felt that anything that reduces the intangible development tax credit is deleterious to the industry. Anything that creates uncertainty is deleterious. I think one of the most important things is that one needs to be able to structure the environment over a longer period of time, because the gestation time in oil and gas exploration is so long.

Mr. **Sharp.** Mr. Smith or Mr. Pickens, I interpret both of your testimonies to suggest that we should not seek to interfere legislatively with the takeover threats and natural mergers that go on.

Do you feel that way also on the broader question of what is currently being discussed here in Washington, the oil import fee—do you think we ought to interfere with the price of oil?

Mr. **Pickens.** I believe in free markets, and so when you start putting an import fee on, I can understand the support it would be for the oil and gas industry.

I have a little bit of a problem, though. Even though the industry is flat on its back right now, is having a very difficult time, you can follow the weekly drilling report from Hughes Tool to give a clear indication of what is going on in the industry. There are only 1,900 rigs operating—really, 1,890 rigs as of Monday—compared to 4,531 rigs in 1981; the business is struggling. But I am not sure that I can line up for an import fee on crude oil.

At the same time, I seem to be a little bit wishy-washy on this, and I suppose that I am because I haven't firmed up other than the fact that I do believe in free markets, and I know that if the price of crude oil came down it would be damaging to our company; it would be damaging to the industry. But, for this country, there would be—actually, with the price of oil coming down, more people would be helped by the price of oil coming down than if it actually went up.

I mean, we all know that. We have more people that would be helped. So I have a little problem with that one.

I would like to comment about Sandy's remarks here about a 20-percent decline in exploration by certain companies that he had gone back and looked at, Unocal, Phillips, and others. But I think one thing that he moved over very quickly, he disregarded their historical finding costs for oil and gas.

Second, the prospects that they don't drill in 1985 are not going to go anywhere. I don't see any big rush for developing these remaining reserves as a marginally profitable rate.

Third, I didn't go along with his assumptions. I believe his feeling is that the prospects are there. I am not sure that the prospects are there.

Fourth, is that management is working. I don't believe that to be the case in some of these companies. I don't think management is working as hard as they should be working.

Fifth, I don't see why anybody would pay a dime to defend themselves against a takeover. We would not, at Mesa Petroleum. We will not spend a dime of the stockholders' money. If an offer is made today for our company, it will go directly to the stockholders. That is exactly the way we will do it.

It is incredible, and if I might comment on the article that was in yesterday's paper about Union Carbide. First, the point where they took $760 million of stockholders' money and are giving it to the employees is incredible. That is stockholders' money they are talking about. In the event—it is hazy as to what might happen to Carbide—they would take $760 million out of their overfunded pension account and spread it out to their employees, that is not their money. That money belongs to the stockholders of the company.

Second, where they talk about "Pickens may be buying some of Carbide" and what this may mean for Union Carbide in taking the company over, we notified them over 3 weeks ago that we had not one interest in their company. We did not own one share of the company. And why they continue to put this kind of stuff in the paper—and I believe I know what it is. It is a method for entrenching management, is what it is.

If you can believe a statement like this—it says they made some changes in their bylaws, and it says, "A Carbide spokesman said a change in the power to call a meeting of shareholders was made, quote, because the board believes the chairman or the president is in the best position to know whether the meeting is in the best interests of shareholders," end quote—meaning that they took the right-of-way from shareholders, and so it would be up to these people to decide.

One other point on that situation, and I can tell you why they want to entrench themselves. The chairman of CEO and the chief operating officer of Union Carbide own less than one one-hundredth of 1 percent of the outstanding shares of their company, they are hardly even stockholders, and all officers and directors of Union Carbide own only one-tenth of 1 percent of the company. They are going to take away the rights of 99.9 percent of all the stockholders of the company because they aren't smart enough to know whether they want to have a shareholders' meeting or not.

It is absurd. This is the kind of stuff that has got to be stopped.

Mr. Sharp. Thank you.

Mr. Smith?

Mr. Smith. We have hit on a number of points here. The oil industry, as I see it, is driven like many industries by the profit motive—discounted cash-flow return on investment. What has affected the oil sector recently has been a deterioration in all of the measures of future profit as pricing assumptions come down and as finding costs demonstrate that the reserves that are being found aren't up to expectations.

In the period 1979 through 1981, we saw the industry was in effect on a 3-year drunk, and it is now in the fifth year of a hangover, and it is trying to adapt to a very difficult outlook. The pricing assumptions aren't good. The drilling results aren't very good. And what we are seeing, I think in the case of Atlantic Richfield, is a company that implemented a very dramatic restructuring plan without being pressured by anyone in particular on the outside, their rationale was to put themselves in a position to deal with $20 oil, should that develop; also, to eliminate that portion of their drilling program which was uneconomic at today's or lower price levels. So, they are cutting out some of the very high cost/high risk frontier drilling. Those prospects will still be there in the future if the price of oil gets to a level that justifies them.

Conceptually, I am a believer in the idea that the United States may have a need for some sort of oil import fee. Again, I think that there are some difficulties in implementing a fee of some sort. But, again, the issue is one of being a country that has produced oil for 150 years. Having run through most of our cheap reserves, we now are at the mercy of very low cost producers, should they determine they want to flood our market.

The economist S. Fred Singer has done some good work on a variable import fee, which would fluctuate in response to the level of crude that is imported so it moves around a target price rather than just being a set $2, $5, what-have-you.

Thank you.

Mr. **Sharp**. In other words, you think that we need to have the active intervention of the Government to keep a stable price level. I assume that would affect both conservation and investment in this industry and for all energy resources, since all energy prices ultimately would be affected by that. You would make that exception to the free market approach.

Mr. **Smith**. I think some sort of stop mechanism that kicks in, in the event you have a precipitous decline in the price of oil.

Mr. **Sharp**. You would have a floor below which the price of oil wouldn't fall?

Mr. **Smith**. Right. That would be it.

Mr. **Sharp**. I would like to recognize the gentleman from Oklahoma, Mr. Synar.

Mr. **Synar**. Thank you, Mr. Sharp.

Welcome, all three of you.

Boone, let me start with you. I would like to go back to this import fee for a second, because I am struggling with it I think similarly to what you are doing.

There is no question that the import fee would have some impact in Oklahoma and Texas and exploring States, but I have been here 7 years now and I have preached the gospel according to independents and producers: Get Government off my back. Let us do our job. Let us have a free market.

When I was in economics at OU, I learned free market means this: The price can go up and it can come down. And in the same sense that all these independents were rushing in here telling me not to set any ceilings on natural gas and oil, they are the same ones now running in here saying, "But we will take a floor." I am struggling with this.

Your last statement in your testimony today says:

> I believe the energy industry and the investing public appreciate this condition, and will force the adjustments which are necessary to preserve a future for the U.S. energy industry. I urge Congress to avoid interfering in this process.

You said you hadn't made a final decision. Which way are you leaning on this import fee?

Mr. **Pickens**. Well, you probably could read me there. I believe in free markets, and when you start talking about crude oil or corn or wheat or whatever else, you are talking about a commodity, and a commodity in short supply is going to naturally go up, and in long supply it is going to go down.

I never have been keen about floors for commodities. And so I guess if you had to have my vote on this morning in July, that I would say that I would not have import fees.

Mr. **Synar**. Let me ask you another question.

Both gentlemen sitting on each side of you have said oil spending declines after mergers, and then they make an argument that mergers eat up a lot of the capital that is necessary for that. In fact, the Chicago Sun, in doing an article I think on July 21, 1985, says:

> Mr. Pickens, who has criticized other oil companies for failing to replace their oil and gas reserve, conceded that Mesa won't replace its own reserves this year unless it buys new reserves.

Mr. **Pickens**. That is a true statement, yes.

Mr. **Synar**. You said earlier, in answer to one of Phil's questions, that that is for a lot of reasons, including the prospects aren't there any more as they used to be. You have criticized other companies for not doing it. You all aren't doing it.

How does that all work together?

Mr. **Pickens**. Well, remember that we became a publicly-owned company in 1964, and our assets at that time were less than $2 million. Today, they are $4 billion. There has been some real progress in Mesa Petroleum in 21 years. The company's paid-in capital on the starting of the business as a private company was $2,500. So the record is good as to what we have done.

The record over 1964 to 1984, that 20- or 21-year period, we replaced every year—there was not 1 year that we did not replace reserves that we produced. We said in 1985 we believe you ought to level with the stockholders, and we said we are not budgeting enough money for 1985 drilling to replace reserves that will be produced. We only have one alternative, which is to make an acquisition to be able to replace reserves that are produced.

We have also said on probably a hundred occasions that we would not take back-to-back down years on reserve replacement, meaning that we would sell out or make some other restructuring of the company, but we will not sit there and take the—for instance, Unocal. Unocal has not replaced since 1978. Now, we don't know how long before that, because that is the first time the SEC required that they show replacement figures—was in 1978. Mesa Petroleum started showing replacement figures in 1971.

I think replacement for an oil company is every bit as important—audited replacement is every bit as important as an audited financial statement, because it is a primary asset of the stockholders. So we said, in 2 years—and we won't be around after that in the same form we are in today—we will make changes, but we are not going to sit here for Boone Pickens to have a job at Mesa Petroleum and deplete the reserves of the stockholders and just say we tried real hard, because I don't think that is satisfactory.

Mr. **Synar**. Given what you said there, Mesa won't replace its own reserve this year, and you said you will not have back-to-back——

Mr. **Pickens**. I am saying, unless we make an acquisition. So, if we go out of 1985 without an acquisition—unless we get lucky; that can happen—we were running a budget this year of $75 million, so we are not drilling——

Mr. **Synar**. Let's say you get through 1985 and you don't do either one of those.

Mr. **Pickens**. We have got 1 more year.

Mr. **Synar**. You are basically putting everyone on notice you are looking again?

Mr. **Pickens**. Well, either that or that we will restructure our business to protect the stockholders' primary asset.

Mr. **Synar**. Let me ask all three of you a question. This hearing today is about restructuring in general, and a lot of the original comments have been about the mergers themselves. As I look at this whole restructuring question, there are a lot of factors, of which I think price has probably as much to do with it as anything, prices dropping as they have in the 18 months to 2 years.

I would ask all of you to comment, and maybe place some percentages, if you can, on the importance of each one of these factors in restructuring: price; the cloud situation of the tax not only on the presentation that is in the tax proposal as well as the import fees; the thing that Boone mentioned, which is the lack of reserves that we have; and finally, throw in the *Delaware* decision that affected Boone.

Which one of these four—or are there other factors that are affecting restructuring? And you can throw mergers in there, too.

Mr. **Margoshes**. I would first like to add a factor or focus on it; that is the excessive debt. I think that has taken priority over how some companies run their businesses. They are in effect siphoning off a much larger percentage of their cash flow now than ever before—to finance their debt. I would say that is the most important single reason why exploration expenditures are coming down.

As far as the import fees, I don't really think so, because I believe that the oil companies in their gut don't expect anything in the way of reform to be imminent.

In terms of reserves, I would like to say that——

Mr. **Synar**. Somebody had better tell Danny that.

Mr. **Margoshes** [continuing]. As the reserves decline, the finding cost goes up; the productivity of capital goes down and the incentive for exploration goes down. But I would think that that has not stopped oil companies before, and it is not stopping them now.

As far as the *Delaware* decision goes, that, as we know, has had a chilling effect on hostile takeovers, but that I think is a very minor aspect of determining what a capital exploration budget would be.

Mr. **Synar**. You didn't mention price.

Mr. **Margoshes**. Price is incredibly important.

Mr. **Synar**. Where is it on those four you listed?

Mr. **Margoshes**. I would say that price is first or second. It is probably second, if we are talking about a company that is radically restructured. It is first if it relates to companies that have not radically restructured.

Mr. **Synar**. Mr. Smith?

Mr. **Smith**. Again, I look at it as the driving factor being discounted, the present value of exploration dollars.

Where are you going to get the biggest impact? When oil company managers look at the Wall Street value of shares—the implied value of a barrel of oil on Wall Street versus drilling investment, they have to again consider whether or not for their shareholders they are making the right decision. When the market gets very discouraged with the prospects of the oil industry and share prices sink to a certain level, you have an arbitrage that makes acquisitions more attractive.

Again, I think the other factor being the big reserve potential for large oil companies is in the frontier areas, which again are very much affected by marginal economics, and those have been hurt very significantly by the decline in oil prices. So I put price and relative attractiveness of other acquisitions.

Finally, and very important, the impact of tax and political environment, and the Delaware court ruling I think has everyone in the oil industry scratching their head at this point, whether or not this signals a major turnaround in the way mergers are going to be treated.

Mr. SYNAR. Boone?

Mr. PICKENS. Number one would be the uncertainty of price; but second—and let me add to that, if I may, Mike, that the lack of natural gas markets is absolutely killing us.

The statement that was made at our Monday meeting, which is an all-day meeting, a week ago, was that we can't stand any more shut-in gas wells. We are through drilling them. I told our people if we don't have a market and we can't get a reasonable rate of return on our investment, we aren't going to drill it; that is it. But we can't stand an investment with no amortization of that cost.

So natural gas—really, when we speak of the oil business, we really should say "gas business," because the gas business is by far the industry today instead of oil, because the big oil fields haven't been found in the United States.

Let me just give you an example. When did any of us at this table or in this room remember a 500-million-barrel oil field being found? That was 1968—17 years ago, we found a 9.6-billion-barrel oil field in the United States. The United States controls about 4 percent of the crude oil reserves worldwide. And of all the wells that have been drilled in the world today since the first well was drilled, 80 percent of them have been drilled in the lower 48.

We are a high cost producer, is what has happened to us. If we keep trying to swim upstream, it is going to be terribly expensive for the industry and for the consumer both. So when I go back and look at it, the price uncertainty, the lack of natural gas markets are by far the most important.

The tax considerations I don't think are bothering the situation right now, but first when we reduced the tax rate 50 percent we lost a lot of the independents players. I heard at the time—they said, oh, no, we can still find oil and gas at a price that would justify a person investing and being able to get that tax break on that exploration. That is not so. And the high finding costs have risen to the top.

Now, that went on for a long time, until some of us in the industry started to point out the high finding costs. The reason that it was masked was because companies had huge cash-flows, and they were able to have high finding costs and just blend it in, not say anything about it, and certainly not tell the stockholders about it. Well, as it started to unfold, and these finding costs started to be observed, what happened then was budgets came down to get the finding costs down.

What happens for sure, if you have 10 prospects you are going to certainly drill the best prospect first probably. If they are all ready to be drilled, you will drill the best one first and on down the line.

It is the same thing in Mesa Petroleum. In 1984, we had the lowest finding costs we had had since 1978. We got the finding costs down to $7 a barrel. We have had finding costs as high as $18 a barrel. When we ran the biggest budget that we ever had, in 1981, we had $18 finding costs and everything was in there—the lease acquisition costs, overhead, and everything else, which I think a lot of people on finding costs leave some of these items out. It is not consistent the way finding costs are determined by individual companies. So finding cost was a big factor.

As far as the mergers are concerned in the Delaware decision, there is no doubt that that decision was against stockholders. I think that is probably 99 to 1 that that was to protect the primary business in Delaware. And that was the incorporation of companies in Delaware and to protect the managements and the boards of directors through the business judgment rule. That, I think, is clear to everybody as to what the Delaware Supreme Court was up to in that situation.

To discriminate against the stockholder is unheard of in America. To discriminate against anybody should be unheard of in America. So, here you had the largest stockholder in the company was left out of an offer. I mean, you talk about greenmail. I mean, that is worse than anything anybody ever heard of, as far as greenmail is concerned.

But, nonetheless, we took it like big boys do and we said, "Fine, if that is the ruling, we will live with it." And we did live with it.

But the reason that the mergers are shutting down now for the oil and gas industry is not because of the Delaware decision. That is only a part of it. The second is back to price uncertainty and markets for natural gas, because everybody is getting very, very concerned as to what is going to happen to these companies and that you could very well overpay for one of them.

Mr. SYNAR. Thank you, Mr. Chairman.

Mr. SHARP. Thank you.

Mr. Oxley. I recognize Mr. Oxley from Ohio.

Mr. OXLEY. I would like to ask Mr. Smith, and perhaps Mr. Pickens as well, since you alluded to it, what effect on natural gas production would continued price controls have; and indeed, would you support or do you support the efforts of Mr. Dannemeyer and others, including myself, to deregulate what is left of the natural gas market?

Mr. SMITH. My knowledge of what is going on in the market right now says that you have had a case of de facto decontrol taking place that began about a year ago, as natural gas producers began to see they could no longer receive FERC ceiling gas prices on their production. And the market is moving in that direction. So

I very much am supportive of any further moves to reduce legislation in natural gas markets.

Mr. OXLEY. So you would support the efforts at deregulating what is left?

Mr. SMITH. Yes, what is left.

Mr. OXLEY. Of the old gas.

Mr. Pickens?

Mr. PICKENS. I think it never should have been regulated in the first place. But, to see what happened to us in the seventies and what happened to a lot of our independent operators, where they really stuck their necks out—borrowed money, went out and drilled expensive wells, got good gas contracts, and then have the transmission companies now market out on those contracts—and now they are even saying force majeure takes them out of the contract—you are going to break some more independents. I think we had 20,000 in the business 5 years ago, and we have got about 15,000 now. And what you should do is just decontrol natural gas and just let it operate that way, and it wouldn't hurt the consumer, I don't think, at all at this point.

In fact, it may even be cheaper. But it should be deregulated, just as oil was deregulated.

Mr. OXLEY. If we were to do that tomorrow, would there be any immediate effect or would it be a long-term effect that would be the most telling?

Mr. PICKENS. Are you saying to deregulate that you would—I am not for—for instance, we have got long-term contracts, and I am never for contract abrogation.

Mr. OXLEY. No, I don't mean to say that.

Mr. PICKENS. I think only when the contract expires should the gas be deregulated at that point, because I think at the time the gas was sold that you had a willing buyer and a willing seller, and those contracts should be adhered to. So, if you deregulated tomorrow, I don't think it would make a penny's difference in the price of gas.

Mr. OXLEY. In my area, for example, Columbia has already announced a 7-percent reduction in the price of natural gas at the burner tip. That appears to be somewhat of a trend, even without continued deregulation.

And I am just wondering—your indication is that at least in the short term that wouldn't have much of an effect, but in the long-term analysis that it would. I am also guessing that you would assume that that would increase drilling and exploration in the independent market.

Mr. PICKENS. No, I am not indicating that at all, because I think that today you have more gas than you have customers. And, consequently, there is no reason to drill shut-in gas wells. Drill them when you do have a market for them. That is exactly our policy at Mesa.

There is no better time to deregulate natural gas than today. And when you say for the short term, we project no real increase after adjusting for inflation for the price of natural gas until the early nineties, so we have got several years that we believe on our projections there would be no impact as far as deregulation is concerned.

Mr. Oxley. You may have already been asked this—I came in late and I apologize if it has—but your opinions on the Senate proposal to put an oil import fee in general, and particularly on the proposal in specifics as far as the $5 per barrel proposal is concerned. What do you think about that?

Mr. Pickens. From what I read, it looks like it is a dead duck anyway.

Mr. Oxley. Are you decrying that or are you pleased?

Mr. Pickens. No. Congressman Synar pinned me down on that before you came in, and I have a hard time with an import fee. I see oil as a commodity, and I see corn and wheat as a commodity also. And so I believe in long supply the price goes down; in short supply, the price goes up. And you play the market either way. And so if you are going to be in a commodity market where you get it on the up side, or you take it over the down side——

Mr. Oxley. You would agree with that, Mr. Smith?

Mr. Smith. Yes.

My conceptual view on the oil import fee is that we should consider it as a floor at much lower prices—below $20 a barrel. Not now, but something that could be considered at that point.

Mr. Oxley. When it reaches at least $20?

Mr. Smith. Yes.

Mr. Oxley. Do you agree with that?

Mr. Margoshes. No. I feel that an import fee is a concealed tax, because I think the typical American doesn't quite recognize the relationship between an import tax and what he pays in the supermarket or at the gasoline pump.

I also think it is a regressive tax. That is not to say that energy might not some day be a necessary source of incremental revenue, but I don't think it should be an import fee.

Mr. Oxley. You don't agree with the Senate majority leader who says that, even though there are three-letter words, there is a difference between f-e-e and t-a-x?

Mr. Margoshes. Right.

Mr. Oxley. Thank you.

Thank you, Mr. Chairman.

Mr. Sharp. Let me just ask one more question to follow up.

We obviously are getting a little away from the topic of mergers, but we are all interested in what is hot on the agenda. Mr. Smith had indicated that at some point he would like to see a floor on price; that there is a risk to the national energy security, which I assume is the thrust of the argument.

Dr. Margoshes, you indicated concern about the fact that import dependency would increase and that there would be a high concentration of oil reserves in the Middle East. I take it that those are really the only justifications you see for us in the Congress to take dramatic actions.

The question that I have, though, is whether you think that at some point are going to be at the bottom of the cycle and prices will start rising again, and more investments will be made in exploration and development. And that would seem to allay our concerns about not reliving the 1973 or 1979 situation where we had such dramatic increases in the prices, and suffered such big disruptions in the economy.

Do you think that we have more energy security today in the world? Is there sufficient diversification? Do the U.S. strategic petroleum reserve and the energy policies in Europe and Japan mean we probably are not going to have those kinds of destructive price level jumps? Perhaps you don't see them as destructive.

Mr. **Margoshes**. If I may, first we are in a sea of oil, a surfeit.

Mr. **Sharp**. Right.

Mr. **Margoshes**. And the immediate focus is on surplus. The U.S. oil industry—in fact, the world oil industry—is probably a 200-year blip in the history of mankind. It is 100 years gone by, and at most another 100.

My guess is—and this is essentially also the consensus, but arrived at independently—that some time close to the mid-1990s the excess productive capacity in the whole world, including the Sino-Soviet bloc, will be reduced to 10 percent or less. Right now, it is approximately 15 percent. It was 25 percent in 1980.

That shift can move us from a surplus gradually to equilibrium, and then to shortage; and when we wake up one day and we have a shortage, we find that we are completely, as a practical matter, dependent on the Persian Gulf. And with Shiite terrorism more likely to proliferate than to disappear, I think that we could be into a very hairy environment.

Also, the Soviet Union—which, incidentally, has increased its production by some 4 million barrels per day—it is the largest non-OPEC producer and the one that has increased most—at some point will peak, and when it peaks, its attitude toward the reserves in the Middle East are going to change, in all likelihood.

I think that we have to have a very long view, a vision of the future, and that what we should do is create an environment now which does not encourage liquidation. We want to do what we can to maintain the U.S. oil industry as a going concern, so that we can buy time to develop alternative energy sources.

Mr. **Sharp**. But earlier you said you wouldn't advocate us doing something about that. You are just talking about you and others warning stockholders and management, so that they understand the risks of liquidation?

Mr. **Margoshes**. Yes. But I think that Congress has an obligation here, and that is to call a spade a spade and to bring it to people's attention, and that is that we had 39 billion barrels of oil in 1970 and we have under 28 billion barrels now.

I asked an expert who I respect enormously—where will we be in the year 2000, and his best guess off the top of his head—but it was thoughtful—was between 15 and 17½ billion barrels.

We are running downhill; and, therefore, what we have to do is alert all of those policymakers to this fact and then try as best we can to formulate an intelligent policy.

Mr. **Sharp**. Mr. Pickens?

Mr. **Pickens**. Mr. Chairman, you have heard me say this before, I am sure, but I come from the standpoint of stockholders and I believe stockholders own companies, and I believe stockholders should decide whether they want to take an offer or not.

I don't believe that oil companies are operated for national security. I think if that is the case, then I think the stockholders should be made aware that they may be involved in some uneconomic decisions and expenditures because of national security. So, I think we need to sort out how the owners should be treated in these situations. If they are offered a price for a company, they should be allowed to decide whether they want to take it or not.

And, remember, the people taking over the company don't intend to destroy it because they wouldn't make the investments they do unless they expected to probably expand the business and not contract the business.

Of all the energy that is used in the United States today, 85 percent of it is generated within the country; 15 percent of it is imported, which is 30 percent of imported crude oil. My feeling is—and that is where I think Sandy and I differ, and we have probably for years—he believes that there is more potential in exploring for oil and gas in the United States than I do. I think it is even less today than I did 6 weeks ago, because of pricing uncertainties. But I don't believe that the big prospects are there.

If you look at the United States using 18 million barrels of oil a day, which is 540 million barrels a month, that is inconceivable to me that we can make much of a dent on an economic approach to exploration to solving those problems.

Enhanced recovery—when the price gets right, the economics get right, then enhanced recovery will become a large factor in this country. Today, that is not the case. But my feeling is to get away from our having the problems that Sandy speaks of—that, sure, the Russians are going to peak, and their attitude toward the Mideast may change very quickly when that happens.

Also, our dependency on those sources of crude are, I would say, chancy at best for us at times. Right now, things look quite well for us. But what I believe that you should do is to realize that the prospects for solving our problem are not here in the United States, but the prospects are probably in the Western Hemisphere and that there should be a Western Hemisphere energy alliance which would tie up the Canadians, the Mexicans, Colombia, Venezuela, and others that would give us that supply, which I agree is an important second.

But if you have determined that you cannot replace within the United States and protect yourself with exploration in the United States, you must look to the second prospect. And that, to me, would be the more likely alternative for us.

Mr. Oxley. If I could follow up on that, you are not talking about a Western Hemisphere cartel to replace the Arab cartel, are you?

Mr. Pickens. I am not talking about a cartel. At a time when we have some of these countries that do have meaningful reserves of oil—forget the gas, because they can't transport it around—we have already proved at prices today it won't move other than in a pipeline. But there are reserves of oil in Colombia, Venezuela, and Mexico.

I am not talking about a cartel. I am talking about maybe economic support for these countries at a time when they are struggling, and at the same time that we would have a call on their oil reserves, which would give us the safety factor that bothers all of us sitting here today.

Sure, I would rather have the oil. If you would let me have my choice, I would rather have it all located in Texas and Oklahoma, being a native Oklahoman. And, in fact, I live in Texas now. If we could put it all there, I would rather have it all in those two States. Give a little to New Mexico, Louisiana, Kansas, or whatever. But, that isn't going to be the case. It isn't there.

Let me give you an example. In Texas, we have not replaced as an industry our reserves, those reserves produced in 1 year, since 1955, 30 years; and we haven't replaced our gas reserves since 1965. Yet, we have been considered to be very abundantly supplied with natural resources.

Texas is coming upon a period that is going to be very, very difficult for our citizens to do some of the things we have done in the past, because the reserve base is depleting rather rapidly now. We produced, in 1984, in Texas, one-third of the oil we produced in 1972—one-third. The price is different. But the production is one-third in 1984 compared to 1972. So you can see what is happening to us. It is happening to the United States. It is happening to all the producing States within the United States. So, you are going to have to look someplace else.

A good article in the New York Times, I believe it was yesterday, that we are going to have to consider coal and nuclear to take care of this. And, by the way, coal has replaced a lot of what oil and gas markets serviced in the past. We are making, I think, a reasonable evolution to alternative energy sources other than oil and gas. And, at the same time, if we could tie up the oil reserves that we would like to have for this country's safety, I think it could be done in such an arrangement.

Mr. **Oxley**. We are projected to have a $50 billion shortfall with Japan this year in the trade area, and Japan wants to buy oil from Alaska and they can't because of Government policy.

What is your opinion on that? Should we sell that Alaskan oil to Japan?

Mr. **Pickens**. We should have sold it to them years ago, because there is a transportation differentiation that, if we sold the Alaskan crude to the Japanese, it would help them, plus it would be an offset to our trade deficit plus we can lay crude oil down at gulf ports and on the east coast of the United States cheaper than we can by moving Alaskan crude around.

Why we ever had that law, I do not know.

Mr. **Oxley**. Do you agree with that?

Mr. **Smith**. We have had the irony of shipping Alaskan crude all the way around through the Panama Canal and up into the gulf coast, and over the same time Mexico is shipping crude to Japan, where we have got a very short differentiation in terms of distance. So really the theory, economic theory, is that it will equal out.

No matter how the oil is transferred to its end market, one thing we are doing wrong now is we are just adding additional transportation costs that aren't necessary.

Mr. **Oxley**. Do you agree with that?

Mr. **Margoshes**. Yes.

The only thought I have is that perhaps we would be well-advised not to sign very, very long-term contracts.

Mr. **Pickens**. We don't have to. If we want to chop off Japanese crude because of some crisis that we had, that could be done in a very, very short period of time.

Mr. **Oxley**. Thank you.

Thank you, gentlemen.

Mr. **Sharp**. Thank you, gentlemen. I appreciate your time and attention to this issue, and your help in helping us to understand what we should and should not do. More often than not, the advice is "should not." We respect and appreciate that.

I might say, Mr. Pickens, that this committee had nothing to do with the ban on the sale of Alaskan oil. But I vividly remember that during the seventies, at every meeting I attended in my home State, the question always came up: Why are we selling Alaskan oil to the Japanese when we need it here at home? Even though we weren't in fact doing it. But the belief was very widespread and it was one of the most incredible political phenomenons that you could not explain to people, why you need to take any other actions to help on the energy crisis when, in fact, we might sell our own domestic supply.

It was a political hot potato, I can tell you, back in the seventies when people were complaining far and wide in this country.

Gentlemen, we appreciate very much your help on this matter.

[The following letter was received:]

JOHN S. HEROLD, INC.
ENGINEERS • GEOLOGISTS • ECONOMISTS
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ARTHUR L. SMITH
PRESIDENT

[illegible] MASON STREET
GREENWICH, CONN. [illegible]
[illegible]

August 5, 1985

The Honorable Philip R. Sharp
Chairman
Subcommittee on Fossil and Synthetic Fuels
Committee on Energy and Commerce
Room H2-331, House Annex No. 2
3rd & D Streets, SW
Washington, DC 20515

Dear Mr. Sharp:

On behalf of my firm, John S. Herold, Inc., I wanted to express my thanks for the opportunity to participate in last week's Subcommittee hearing on oil industry restructuring. Several questions from Subcommittee members Messrs. Synar, Oxley and yourself, focused on the pros and cons of the imposition of federal tariff on imported oil should world crude prices decline sharply.

While I remain conceptually dedicated to a "free market" economic orientation, I believe a strong case can be articulated for some form of federal tariff on imported oil should world oil prices plunge below $20 per barrel. The economic rationale for such policy has three principal determinants:

1) As one of the world's highest cost petroleum producers, United States' oil and gas resource development economics (drilling reinvestment) of the oil industry would be devastated by a sharp decline in oil prices. While a dramatic oil price decline would serve to set the stage for antoher steep crude price increase at a later date, the immediate fallout of such a development would serve to exacerbate the financial difficulties of domestic energy firms, particularly the extremely depressed oil service industry. A rash of bankruptcies could result which might cripple reeling domestic energy lenders, e.g. Texas and Oklahoma banks. I have included a copy of the testimony I provided to the House Ways and Means Subcommittee in 1983 on the subject of oil industry financial difficulties.

Moreover, the longer term security of domestic petroleum supply would be dealt a harsh blow if sharply lower U.S. wellhead prices caused major and independent oil companies alike to cancel or defer new reserve development plans. For example, Atlantic Richfield, Exxon, and Standard Oil (Ohio) have significant high-cost giant oil field development programs underway on the Alaskan North Slope which should add menaingful quantities of future oil production. The development economics for ARCO's Purdhoe Bay Kuparuck, Lisburne and West Sak reservoirs and Sohio's offshore Beaufort Sea Endicott field are highly sensitive to relatively modest changes in oil pricing assumptions. With output from the Prudhoe Bay Sadlerochit formation (currently 1.5 million barrels per day or 17% of domestic crude production) set to enter an irrevesible decline curve in 1986 or 1987, it is definitely in the national interest to see that new sources of Alaskan crude oil output are encouraged. In our opinion, the Congress would be making a grave strategic error if significant new domestic oil resources such as those in Alaska were not recognized and protected from short-term oil price weakness.

One need only to examine the damaging nature of the roughly 5.0 million barrels per day of U.S. imports of crude and oil products (at a cost of approximately $55 billion annually) on the domestic trade balance, to see the obvious benefits of maximization of domestic petroleum production.

2) For many years, counterproductive federal energy price policies restrained domestic petroleum prices below world levels and encouraged growth in consumption. Gradual deregulation of oil and natural gas pricing have stimulated domestic supply while retarding demand through conservation. Through the continued encouragement of the conservation ethic among domestic petroleum consumers, an import tariff is desirable. Notwithstanding recent boosts in petroleum product taxes (the 5¢ increase in the federal gasoline tax), domestic consumers still pay some of the lowest petroleum prices among the industrial nations. While declining petroleum prices have a natural stimulative effect on the economy though higher consumer real disposable income, a case can be made that the U.S. as a major net importer of oil should pursue a policy of discouraging oil product consumption and encouraging conservation.

Although the issue was not addressed at the Subcommittee's hearing, I feel strongly that Congress should work to encourage the substitution of natural gas (in surplus) for oil (in short supply) in all domestic energy applications where feasible. Oil has no viable competition as a transportation fuel. Yet oil's use in stationary (heating, power generation, industrial) applications is not warranted and should be discouraged in favor of natural gas and coal.

3) Lest the subject go without discussion, an import tariff does have yet another advantage which is far from inconsequential -- it could raise meaningful federal revenue. With Congress in dire need of funds to shrink the budget deficit, it should be noted that each $1 of tax per barrel on imported petroleum would raise nearly $2 billion per year. With government receipts from the misnamed excise fee ("Windfall Profit Tax") declining sharply as world crude prices erode, an import tariff gains in significance.

I favor a "variable import tariff" as a mechanism. The economist, S. Fred Singer has articulated a strong economic rationale for such a measure. I have contacted Mr. Singer (formerly with the University of Virginia and the Heritage Foundation), at George Mason University and asked him to forward a copy of his work on this subject to you.

Mr. Chairman, thank you again for the opportunity to express the views of my firm, John S. Herold, Inc.

Sincerely,

Arthur L. Smith

Arthur L. Smith
President

ALS/jbp

cc: S. Fred Singer
T. Boone Pickens, Jr.

Mr. **Sharp**. We now welcome our second panel. We have Mr. B.M. Thompson of Phillips Petroleum, and Mr. Kurt Wulff, vice president of Donaldson, Lufkin & Jenrette.

Welcome, gentlemen. We will be happy to make your written testimony a part of our record, and will be happy to hear from you orally at this time. We have first on our list Mr. Thompson.

STATEMENT OF BILL M. THOMPSON, VICE PRESIDENT FOR CORPORATE PLANNING AND DEVELOPMENT, PHILLIPS PETROLEUM CO.; AND KURT H. WULFF, VICE PRESIDENT, DONALDSON, LUFKIN & JENRETTE

Mr. **Thompson**. Thank you, Mr. Chairman. I do request that my written testimony be made a part of the record.

Mr. **Sharp**. Without objection.

Mr. **Thompson**. I am Bill M. Thompson, vice president for corporate planning and development for Phillips Petroleum Co. It is a pleasure to appear before this subcommittee this morning to participate in your review of the impacts of domestic oil industry restructuring on exploration and production.

Phillips is an integrated oil company that for the past 68 years has been located in Bartlesville, OK. We presently employ 29,000 people in 26 countries, and are involved in all aspects of the petroleum business from petroleum exploration, production and refining to transportation, marketing, and research. Our investments have been limited primarily to the energy field and our revenues last year exceeded $15.5 billion, with our net income being about $800 million. This represents about a 6 percent return on average assets for our company.

As a result of two hostile takeover attempts, Phillips has undergone a restructuring and is a much more highly leveraged company than it used to be. We do not believe that these takeover attempts were in the best long-term interests of the company nor of U.S. energy security. The restructuring program which we have instituted will allow Phillips to be a long-term vigorous competitor in the petroleum marketplace, but the restructuring plan has also added about $4.5 billion of new debt to our balance sheet, bringing our capitalization ratio to over 80 percent, which is more than twice as high as the historical average for the petroleum industry.

To reduce this debt load, we are now undertaking a program of selected asset sales and cost reductions. We have identified a number of assets to be sold, which include some exploration and production properties.

Phillips will spend 22 percent less on exploration in 1985 than we had previously planned. This is principally due to our new debt load, and our exploration budgets for the next several years will be below our previous plans. Obviously, these reductions mean that we will not be able to replace reserves as aggressively as we had hoped.

If you equate the 22-percent reduction in our exploration budget, and you use our historical finding costs for the last 3 years, which I might add has been below the industry average, this means between 18 and 20 million barrels less reserves will be added to our books this year. Overall capital expenditures in 1985 will be 23 percent less than previously planned, and this results not only in reduced exploration but will also result in reduced expenditures in natural gas liquids business and downstream and chemical business lines, as well as certain long-term research programs.

As a result of our increased debt, we are now looking at a reduction in 1985 research and development expense of 15 to 20 percent from what we had planned. This research program is one that has made an annual contribution to the company and to our Nation's energy security. As an example, we presently hold over 5,300 active U.S. patents, and have obtained more patents than any oil company in 13 of the past 15 years.

So the basic answer to your inquiry over the effects of higher leverage on the domestic industry is that it does affect our ability to invest in programs designed to discover and develop energy resources for our Nation's needs. It has forced us to be more short-term oriented. We still intend to be an active company in the search for new oil and gas, but the reality of a more highly leveraged financial environment has to be recognized.

There is no question that the greater degree of leverage on oil companies adds another risk to those we already face. Under normal operations, oil companies face geologic risks, oil price risks and a tax risk. Now higher leveraging magnifies the price risk, and adds a financial risk. As a result, companies have less flexibility to respond to developments.

In today's market, different segments of the industry are now experiencing overcapacity. Demand and price are down, and increased production from non-OPEC countries and the policies of OPEC have produced a temporary oversupply of oil in the world. The net effect has been a slowdown in exploration and production generally throughout the industry. Decreased funds available for exploration will amplify this slowdown, and will result in further reductions in U.S. reserves. Many companies have changed their plans in order to adjust to this weaker oil market. The consolidation that we are seeing in the oil industry requires firms to balance reserve replacement objectives with short-term shareholder return. Mergers can add to the ability of the domestic industry to bring oil and gas to the market efficiently and competitively over the long term. Such consolidations which serve the purpose of responding to changing market conditions should not be confused with the hostile takeover attempts that involved Phillips and some other oil companies, which, in our view, were designed to benefit the short-term speculator and not the long-term investment opportunities of our companies, in addition to not benefiting the energy security of this country. These proposals were often liquidation strategies that were prepared to sacrifice the future for maximum current returns.

Phillips' objectives have been to add to our reserves, both through exploration as well as acquisition. For example, in 1983, we acquired General American Oil Co., and in 1984, we acquired Aminoil, Inc. Both of these were friendly acquisitions and, when combined with our own exploration efforts, increased Phillips reserves by 18 percent. And I might add that if you look at what is important to this country from an energy security standpoint, you have to look at the reserves that you add from all sources except acquisition. Acquisition is strictly reallocation among companies. In the case of our company, we have more than replaced our reserves on the average for the last 3 years in the United States, through new exploration and enhanced recovery.

Separate from these acquisitions, Phillips has adopted the strategy of replacing its U.S.reserves through its own exploration program. This is a long-term strategy consistent with the high-risk capital-intensive and long-term nature of the petroleum business. Our objective then and now is to deploy our assets to yield a competitive return for our shareholders while making available to the consuming public the energy resources demanded at reasonable prices.

The petroleum business is unique among businesses. Due to the business risk and significant capital and long leadtime required to explore, develop and complete a project, the industry has relied more on the cash flow from current operating projects than on debt to fund the majority of the new petroleum resources. Accordingly, equity funding has normally been a much higher part of an oil company's capital structure when compared to most other industries. For years the United States has been one of the most attractive capital investment environments in the world, but there are three important public policy developments which could cause this environment to change, and thereby cause more money to be invested abroad.

First, in 1985 and 1986, there is likely to be a significant decline in the amount of capital expended on exploration in the United States, a trend which, as I have said, has been seriously aggravated by increased debt loads brought on by restructuring and a significant decline in oil prices. In addition, continued controls on natural gas will have a negative impact on U.S. energy investments. A further contributing factor is that the overall cost of exploration is higher in the United States than in foreign settings as a rule, a fact which tends to encourage foreign exploration.

Second, the administration's tax proposal now being debated in Congress contains several provisions, the effeect of which, if passed, will have a further depressing effect on exploration activities.

Finally, continued policies of the Government to restrict access to both offshore and onshore public lands for exploration is a significant blow to maintaining high levels of exploration in this country.

While developments in the United States have a significant impact on companies' decisions, there have been other parallel changes in foreign settings acting to encourage companies to place their exploration dollars in these countries. The net effect of these developments could be an increase for foreign expenditures in 1985 by as much as 15 to 20 percent over 1984 levels.

Although the current worldwide oversupply of crude oil tends to mask declining U.S. reserves, the United States is progressively becoming more dependent on imported oil. The impact on U.S. energy security from forced industry restructuring is one of several factors that contribute to this dependency. The general expectation has been that U.S. production will decline by 10 percent by 1990, under current policies and normal capitalization structures. The addition of greater debt burdens will add to this production decline.

In closing, Mr. Chairman, Phillips believes that the present restructuring that is occurring within the energy industry has been encouraged by a number of factors. Lower crude oil prices and increased debt loads, however, are the primary factors which will have an overall determining effect over whether a given company will be competitive or not. While Phillips has survived two hostile takeover attempts, and has accumulated a sizable debt in doing so, we are still a competitive but smaller company. Our decrease in size will be reflected in less domestic oil being discovered and produced, less vital research and development activity being conducted, and less availability of a host of consumer products. Our Nation's energy security has not benefited by these events.

Thank you, Mr. Chairman. I will be happy to anwer any questions you might have.

Mr. SHARP. Thank you, Mr. Thompson.

[Testimony resumes on p. 368.]

[The prepared statement of Mr. Thompson follows:]

TESTIMONY OF

BILL M. THOMPSON

PHILLIPS PETROLEUM COMPANY

Thank you, Mr. Chairman. I am Bill M. Thompson, Vice President for Corporate Planning and Development, Phillips Petroleum Company. It is a pleasure to appear before the subcommittee this morning to participate in your review of the "Impacts of Domestic Oil Industry Restructuring on Exploration and Production." Because of two recent hostile takeover attempts directed toward Phillips, we have been forced to undertake a capital restructuring plan that is directly related to the subject of your hearing.

Phillips is an integrated oil company that has for the past 68 years been located in Bartlesville, Oklahoma, where it was founded in 1917. We presently employ more than 29,000 people worldwide and are involved in all aspects of the petroleum business from exploration, production and refining, to transportation, marketing and research. We also are substantially involved in natural gas production and liquefaction, chemicals production and sales, and we have been active in other energy areas such as coal, geothermal, nuclear fusion, and solar power research. Phillips operates in 26 countries. Our investments have been limited primarily to the energy field and our revenues last year exceeded $15.5 billion with our net income being about $800 million which equates to a 6 percent return on average assets.

It should come as no surprise to the members of this subcommittee that several companies in the oil industry are currently experiencing a significant capital restructuring, much of which has been prompted by hostile corporate takeover attempts. In December of last year, Phillips was subjected to the first of two hostile takeover attempts and today we are looking at a more restricted long-term plan than we were last year. As a result of these takeover attempts, Phillips is a much more highly leveraged company than it used to be and we are developing our plans to fit this new environment.

Mr. Chairman, I'd like to focus my remarks today on how Phillips is adjusting to the new capital structure that we have recently put in place. Our current situation, as I just mentioned, has resulted largely because of the recent hostile acquisition attempts which we do not believe were in the best long-term interests of the company nor of the U.S. energy security. As a result of the pressure from these two successive takeover attempts the company implemented a restructuring program that will still allow Phillips to be a long-term vigorous competitor in the petroleum marketplace, while at the same time preserving the major portion of the company's assets for our shareholders. Our plan does result in an increased payout to our shareholders.

However, the restructuring plan has also added about $4.5 billion of new debt to our balance sheet, bringing our capitalization ratio to over 80 percent, which is more than twice as high as the historical average for the petroleum industry. To reduce this debt load, we are now undertaking a program of selected asset sales and cost reductions. We have identified a number of assets to be sold which include some exploration and production properties. In addition, we are aggressively working to reduce our expenses. For example, we have recently announced an early retirement program and 1900 of our employees have elected to accept this offer. I anticipate that further efforts will occur to bring our costs down.

Phillips will spend 22 percent less on exploration in 1985 than we had previously planned, and our exploration budgets for the next several years will be below our previous plans. Obviously, these reductions mean that we will not be able to replace reserves as aggressively as we had hoped, as we cannot participate in as many exploration projects as we would like. Overall, capital expenditures in 1985 will be 23 percent less than previously planned and this results not only in reduced exploration, but will also result in reduced expenditures in natural gas liquids business and downstream and chemical business lines, as well as certain long-term research programs.

Any discussion on energy security should not neglect the importance of research and development. The current domestic production of oil and gas has been increased significantly over the years, thanks to R&D breakthroughs in enhanced recovery technology as well as through advancements in exploration.

As a result of our increased debt, we now are looking at a reduction in 1985 in R&D expense of 15-20 percent from what we had planned before the recent forced restructuring. We are also having to cut R&D staffs to correspond with these budget reductions and asset sales. These budget and personnel reductions are not the result of a company who has let its R&D operations become overgrown. Phillips' R&D record has been exceptional. We presently hold over 5300 active U.S. patents and have obtained more patents than any oil company in 13 of the past 15 years. This program is one that has made an annual contribution to the company and to our nation's energy security.

So the basic answer to your inquiry regarding the effects of higher leverage on the domestic industry is that it does affect our ability to invest in programs designed to discover and develop energy resources for our nation's needs. It has forced us to be more short-term oriented. We still intend to be active in the search for new oil and gas, but the reality of a more highly leveraged financial environment has to be recognized.

Other companies are also in a similar position. These companies are substituting debt for equity and are therefore, like Phillips, more vulnerable to falling oil prices. In addition, sluggish demand and falling oil prices may have a sustained impact because less money will be available to pay off debt. Our ability to replenish reserves, whether it be in the U.S. or internationally, is constrained and our ability to pursue the ambitious research and development programs needed for long-term energy security is also reduced.

There is no question that the greater degree of leverage on oil companies adds another risk to those we already face. Under normal operations, oil companies face geologic risks, an oil price risk, and a tax risk. Now, higher leveraging magnifies the price risk and adds an additional financial risk. As a result, companies have less flexibility to respond to developments.

Also, combined with the current problems of investing in a weak market with constrained cash flow, is the fact that domestic U.S. companies are often at a disadvantage in the world market. All oil companies are exposed to developments in the worldwide economy. However, there is a significant difference between the recent history of private companies and state-owned companies. State-owned companies, particularly in the Middle East and some in Europe, receive significant support from their governments and are often isolated from some of the greater downside risks that non-government companies are exposed to. This is not to argue that the U.S. government should support private companies, but rather to point out that the ability of private companies to find the oil necessary to ensure U.S. energy security, even in a strong market, is subject to significant risk.

The world oil marketplace in the 1970's saw crude oil prices rise substantially only to turn around and start to drop over the last few years. Different segments of the industry are now experiencing over-capacity; demand is down and increased production from non-OPEC countries and the policies of OPEC, have produced a temporary oversupply of oil in the world.

Falling oil demand and lower oil prices have resulted in a slowdown in exploration and production, generally throughout the industry. For example, the Oil and Gas Journal (February 25, 1985) reports 1983 drilling-exploration expenditures at $28.2 billion in 1983; $29.9 billion in 1984; and estimate 1985 expenditures of $27.5 billion. Adjusted for inflation, expenditures were up about two percent from 1983 to 1984 and down more than 11 percent from 1984 to 1985. The U.S. drilling rig count, according to Hughes on July 16, 1984, was 2389, but was reported at 1931 as of July 15, 1985, a reduction of 19 percent. These statistics are indicators of lower oil prices, and decreased funds available for exploration which will result in further reductions of U.S. reserves. This situation has caused many companies to change their plans in order to adjust to a weaker oil market. The consolidation that we are seeing in the oil industry requires firms to balance reserve replacement objectives with short-term shareholder return. Mergers can add to the ability of the domestic industry to bring oil and gas to the market efficiently and competitively over the long term. Such consolidations, which serve the purpose of responding to changing market conditions, should not be confused with the hostile takeover attempts that involved Phillips and some other oil companies which, in our view, were designed to benefit the short-term speculator, and not the long-term investment opportunities of our companies, in addition to not benefitting the energy security of this country. These proposals were often liquidation strategies that were prepared to sacrifice the future for maximum current returns.

Phillips' objectives have been to add to our reserves both through exploration as well as acquisition. For example, in 1983, we acquired General American Oil Company and in 1984, we acquired Aminoil Inc. Both of these were friendly acquisitions and, when combined with our own exploration efforts, increased Phillips' reserves by 18 percent. Separate from these acquisitions, Phillips has been successful in replacing its U.S. reserves for the past several years through our own exploration program. In addition, our annual exploration expenditures for the last three years have averaged about $500 million per year. Our plans have been to replace our reserves and to improve the quality of our exploration acreage. This was a long-term strategy, consistent with the high-risk, capital intensive, long-term nature of the petroleum business. Our objective then and now is to deploy our assets to yield a competitive return for our shareholders while making available to the consuming public the energy resources demanded at reasonable prices.

Success requires that companies replace the energy reserves that are produced, and to do this requires sound strategic planning that emphasizes consistent allocations of large amounts of capital to exploration and development as well as to downstream segments of operations.

The petroleum business is not like other businesses. Due to the business risks and significant capital and long lead time required to explore, develop and complete a project, the industry has relied more on the cash flow from current operating projects than on debt to fund the majority of new petroleum resources. Accordingly, equity funding has normally been a much higher part of an oil company's capital structure when compared to most other industries.

The United States has been one of the most attractive capital investment environments in the world. It has, over the past few years, increased its attractiveness for a variety of reasons, which is reflected in the increased inflows to the United States, as well as a decrease in investments by U.S. companies overseas. For example, in 1984, foreign direct investment in the United States was over $20 billion. This compares to a level in 1979 of only $8 billion. But there are three important public policy developments which are likely to influence the future trend of the U.S. energy investment environment.

First, in 1985-86, there is likely to be a significant decline in the amount of capital expended on exploration in the United States, a trend which, as I've said, has been seriously aggravated by increased debt loads brought on by restructuring and the significant decline in oil prices. In addition, continued controls on natural gas will have a negative impact on U.S. energy investments. A further contributing factor is that the overall cost of exploration is higher in the U.S. than in foreign settings as a rule, a fact which tends to encourage foreign exploration.

Second, the Administration's tax proposal now being debated in the Congress contains several provisions, the effect of which, if passed, will have a further depressing level on exploration activities.

Finally, continued policies of the government to restrict access to both offshore and onshore public lands for exploration is a significant blow to maintaining high levels of exploration in this country. Should these policies continue, the impetus will be to increase foreign exploration activities.

While developments in the United States have a significant impact on companies' decisions, there have been other parallel changes in foreign settings which are acting to encourage companies to place their exploration dollar in those countries. Two years ago, for example, the British government made several changes to its tax code which resulted in a significant upswing in exploration activities offshore, in the North Sea. We expect similar fiscal decisions by other governments who are anxious to maintain a high level of exploration in their countries by attracting foreign investments.

The most recent example of significant change in the exploration environment has been the Canadian government's decision to decontrol oil prices. According to the Canadian Petroleum Association, as a result of these steps as well as steps made last year, outlays for drilling in Canada will increase by almost 20 percent this year, to an estimated Canadian $5 billion. An estimated 11,000 oil and gas wells will be completed in Canada this year, compared to approximately 9,700 in 1984. This will occur while exploration activity is decreasing in the U.S.

An improving investment climate and a greater exploration potential in foreign countries, together with increased adverse investment policies by the U.S. government, will result in additional overseas spending by oil companies. The increase for expenditures in 1985 could be as much as 15-20 percent over 1984 levels.

The U.S. is progressively becoming more dependent on oil imports. The current worldwide oversupply of crude oil tends to mask declining U.S. reserves and increased reliance on imported oil. The impact on U.S. energy security from forced industry restructuring is one of several factors that contribute to this dependency. The general expectation has been that U.S. production will decline by 10 percent by 1990 under current policies and normal capitalization structures. Furthermore, without an aggressive exploration program outside OPEC, this import dependency could translate into greater vulnerability as OPEC countries in the Persian Gulf become the only principal large-scale oil explorers in the world.

In closing, Mr. Chairman, Phillips believes that the present restructuring that is occurring within the energy industry has been encouraged by a number of factors. Lower crude oil prices and increased debt loads, however, are the primary factors which have an overall determining effect on whether a given company will be competitive or not. While Phillips has survived two hostile takeover attempts and has accumulated a sizable debt in doing so, we are still a competitive but smaller company. Our decrease in size will be reflected in less domestic oil being discovered and produced, less vital research and development activity being conducted, and less availability of a host of consumer products. Our nation's energy security is not benefitted by these events.

Thank you, Mr. Chairman. I would be happy to answer any questions you may have.

Mr. SHARP. Mr. Wulff, we will be happy to hear from you now.

STATEMENT OF KURT H. WULFF

Mr. WULFF. Mr. Chairman, it is an honor to be here with you today and with the members of your committee. Yes, I would like to have my written testimony become a part of your record.

I recommend that the U.S. House of Representatives act to make it easier for shareholders to elect opposition directors at large oil and gas companies. That will lead to more efficient structures, and therefore more efficient oil and gas spending, to save the economy $100 billion.

We measure that saving by the difference between what investors and lenders price oil and gas reserves in the United States, and what the companies think those properties are worth, or what an investor would think those properties are worth in the small property form as opposed to the corporate form. That $100 billion difference, of course, has narrowed somewhat already through the restructuring trend and is a major driving force.

I think there are three flaws in structure that contribute to investors' perceptions that they won't get the cash flow. Investors perceive that the value of the property will dissipate over time, because the cash flow won't be reinvested effectively. I think there are three flaws instructure that contribute to that.

One I call overcapitalization. Companies with too much financial strength are careless in their spending decisions. Unocal wasted $1 billion on a shale oil plant and a molybdenum mine. A second flaw is diversification. Why is Mobil still in the retail business? They have been at it for 10 years. How long does it take for a company to recognize how it squanders its shareholders' resources. The third flaw is integration itself. Those integrated companies are too quick to spend money on refining and marketing. Yes, Phillips does have one of the better oil finding records, but Phillips wasted—my good friend Bill here, no personal offense intended—Phillips wasted $1 billion on upgrading their refining system at the same time that they were finding new oil and gas reserves.

The restructuring trend, primarily in the form of takeovers, has been a reaction to this. Actually, I think that we are passing out of the phase of takeovers, and into a phase of shareholder voting. There has been a plethora of antishareholder measures employed or developed by management in recent years, including poison pills, discriminatory stock repurchase, and some other measures that I will cover. These have provoked a reaction from shareholders. The other one I was thinking of was supermajorities.

The one mechanism to counter those antishareholder measures is the normal approach of electing directors with a simple majority vote. I think that it makes sense, that there is an opportunity to make a contribution, for investors to propose their own directors and their own program at large oil and gas companies next year. That program would be to reduce overcapitalization, reduce diversification and reduce integration.

In effect, the program is to create smaller companies, not larger companies. I certainly disagree with the comments made earlier that we are in a consolidation phase. I think our consolidation

phase will ultimately turn to a deconsolidation phase. Phillips is going to be in more pieces as a result of the restructuring. They are going to sell parts of Phillips. It is not going to be a bigger company but a smaller, more efficient company.

As you might guess, my views are not received very well by the managers of large oil and gas companies. At Gulf they paid megafees to an investment banker to publish a critique of DLJ's oil and gas research, send it to all of our clients. Like Boone says, we are big boys. We can take that. Our clients thought it was a compliment to be criticized by Gulf. But then I started getting hauled into court. At Getty, a director accused me of using inside information. I spent 10 hours under interrogation by five California law firms just covering a 2-hour meeting that I had with Gordon Getty.

At Phillips I was interrogated for 5 hours in an attempt to discredit my conclusions that the Phillips recapitalization plan was unfavorable for shareholders. Phillips used the New York law firm of Wachtel, Lipton, Rosen & Katz, the law firm most identified with management entrenchment. At Unocal I was interrogated for 3 hours. Here one of the ugliest parts of the meeting came when the attorney for Unocal wanted me to name my clients, who had been critical of the Unocal management. I almost did it, but my judgment got the better of me. I refused to answer. I was told that I could be in contempt of court, and I said I was prepared to take the consequences.

I just got the bill for my legal defense in the *Unocal* case. Our general counsel asked, "Well, Kurt, what are we going to do with this?"

I said, "Well, we can't charge it to Unocal. They didn't pay us any fees. We can't charge it to Mesa. They didn't pay us any fees on the Unocal transaction. Well, we will just have to bury it. Just don't take it out of my paycheck."

It didn't end there. Unocal then blackballed DLJ from a customary role in an underwriting of Union exploration partners last week. So you can see that the reaction to my ideas sometimes is not too supportive.

I think we need your help here. We need to make directors of large companies more accountable. Why shouldn't directors be as accountable as Congressmen? You have got to go back to Muncie every 2 years to get reelected.

Mr. SHARP. Before that to get reelected.

Mr. WULFF. We have a Soviet system of electing directors, one slate nominated by the people in power. Here are some specific proposals that I have.

I would like to see that expenses for running an opposition slate of directors can be recoverable from the company, because the opposition obviously benefits the whole company. Depending on the vote, a 50-percent vote ought to justify 100 percent recovery of expenses, maybe even a 30-percent vote. Expenses, as I indicated, can be tough, you will have to hire your own lawyer to protect yourself from management harassment.

I believe the House of Representatives should abolish the use of supermajorities where one slug of stock makes that supermajority a disenfranchisement of the rest of the stockholders. Mr. Hess has disenfranchised the stockholders at Amerada Hess.

I believe the House should abolish disproportionate voting rights for special classes of stock. The principle of one share, one vote, should be just as important to corporate democracy as one man, one vote to political democracy.

I recommend that the House of Representatives abolish discriminatory stock repurchases. There should be no basis for paying one group of stockholders a price that is not available to the rest of the stockholders.

Thank you, Mr. Chairman, for your attention. I look forward to your questions.

[Testimony resumes on p. 383.]

[The prepared statement of Mr. Wulff follows:]

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MORE EFFICIENT OIL AND GAS SPENDING

Testimony of Kurt H. Wulff before
House Subcommittee on Fossil and Synthetic Fuels
Washington, D. C.

July 30, 1985

Summary and Recommendation

I recommend that the U.S. House of Representatives develop legislation to promote financial restructuring to improve the efficiency of the U.S. oil and gas industry by $100 billion. Investors and lenders suggest that oil companies as now structured will waste that much in present value of U.S. oil and gas reserves. Overcapitalization, diversification, and integration have contributed to the misallocation of huge sums. The restructuring trend corrects those three flaws with particular progress so far on the first two. Take-overs, the most dramatic form of restructuring, may be less important in the future. At Phillips and Unocal, shareholder voting proved to be the emerging force for change. The largest companies, such as Mobil, are now the most attractive targets.

Legislative initiatives are needed to curb the abuse of the business-judgment doctrine, which a Delaware judge recently twisted to support a discriminatory tender offer. I know of no investor, regardless of how he feels about Boone Pickens, who believes that one group of stockholders should be able to sell stock to the company at a price higher than that available to other stockholders. At the same time, more than one class of voting stock should be flat outright abolished. Also, super-majority voting requirements are especially offensive when enough stock is closely held such that remaining shareholders are disenfranchised. Finally, the barriers to election of board members not nominated by management should be lowered. Proxy solicitation and legal expenditures for defending against harassment by management should be recoverable from the company in proportion to the votes generated.

The views expressed in this testimony are Mr Wulff's and are not necessarily endorsed by DLJ

McDep Measures Efficiency

I have my own technique for measuring efficiency that I call the McDep ratio (See Table 1). The numerator is what investors and lenders are willing to pay for a collection of assets, and the denominator is what the companies themselves are willing to pay for properties.

In the numerator, we simply look at stock price multiplied by number of shares to get stock-market capitalization--we call it market cap--and add the debt, which is primarily long-term debt, but also some other liabilities.

That is easily measurable. It represents the collective judgment of many people buying and selling stock and debt every day.

The denominator is a bit more subjective. We try to estimate what the value of a company's properties might be using a discounted-cash-flow technique. Probably the best reading you have on the denominator is that last year among some 13 large deals the median ratio of acquisition price to estimate of property was about 0.95, and since then we have reduced our estimate of properties.

The denominator of McDep involves the same type of long-term analysis that corporations apply to their capital expenditure decisions. We project the cash flow from different businesses many years into the future and discount that back to the present.

Now let's use that technique to measure how much inefficiency we might actually have.

The total value of property that we have estimated for 200 oil and gas companies that we try to track on a regular basis is more than $700 billion, whereas the total market cap and debt is less than $500 billion. That's quite a gap. Almost half of those properties are in U.S. oil and gas. So I would conclude that there is a $100-billion gap between what lenders and investors value U.S. oil and gas reserves and what the reserves appear to be worth to the companies.

We think that both sides are right, and that this gap measures inefficiency, which we think is caused more by structure than anything else. Investors are saying that the value of oil and gas reserves will dissipate over time because there will be poor reinvestment of the cash flow from those properties.

Causes of Waste

Investors have good reason to feel that cash flow will be inefficiently reinvested. The main reason that I like to point to is what I call overcapitalization. It means too much financial strength.

Overcapitalized companies are too quick to make investments that might not have been very carefully worked out. Unocal, for example, spent more than a half billion dollars on a shale-oil plant that doesn't work.

Overcapitalization has also supported inefficient investment in diversification and integration. Here the evidence is more obvious.

I think that nearly everyone recognizes that diversification has been unsuccessful for large oil and gas companies. We have examples of Standard of Ohio buying Kennecott and Atlantic Richfield buying Anaconda, Standard of Indiana buying Cyprus, and so on in the minerals area. The classic example of inefficient investment in diversified business is Mobil owning Montgomery Ward and Container Corp.

Integration, too, is an area that suggests poor reinvestment. Integration means that companies are not only in the exploration and production business, but also in the refining and marketing business.

I can list a number of points supporting why that is not an efficient combination. It has led to a glut of refining and marketing capacity, and that glut continued even after oil prices peaked. Investments simply went into upgrading capacity instead.

I think that the management is over-extended to try to manage exploration and production and refining and marketing successfully, just like management is obviously over-extended when it moves into diversified areas.

The strategic justification for being in refining and marketing has disappeared. Originally, it made some sense for an oil producer in the U.S. to own marketing facilities to assure an outlet for his crude. But today, of course, any barrel of oil produced in the U.S. can be sold. That strategic rationale now applies more to Middle Eastern countries who have a surplus of producing capacity.

There are minor operating efficiencies in running refining and marketing and exploration and production, but I think that those are offset to an enormous degree by the stock-market penalty.

Another response I get when I argue that refining and marketing should be separated from exploration and production is, "Who will buy the refineries?" Well, we can simply spin them off, create separate entities where your one stock certificate in an integrated company will give you two stock certificates, one in the refining and marketing company, one in the exploration and production company.

The answer I will get to that is, "But then the refiner might not survive." Well, I think that we can work out some contractual arrangements, some financing arrangements that will carry the refinery through a weak period, and then if there are still companies that cannot survive, well, maybe they shouldn't survive, maybe those refineries should be shut down.

Oil And Gas Restructuring Corrects Inefficiency

Special concern by the U.S. House of Representatives about restructuring in the oil industry is warranted because oil companies dominate lists of the largest industrial corporations. Because oil is a commodity, there is a certain commodity value to the properties of a large integrated company. When that commodity value deviates more sharply with stock market value it signals either a problem or an opportunity.

The reaction is the restructuring trend, which has been most dramatic in the form of take-overs.

"Heroes of Oil and Gas Efficiency" recalls the structural changes that have enhanced stock-market value and made a contribution to efficiency. (See Table 2.)

Each company listed has done something to reduce overcapitalization. For example, I list David Roderick and Harold Hoopman of U.S. Steel. The overcapitalization of Marathon was reduced by U.S. Steel buying out Marathon. Now the equity of U.S. Steel supports the operation of both Marathon and U.S. Steel. Overcapitalization has been reduced by $6 billion, and I have credited half of that to the U.S. Steel people and the other half to Mobil, which started the first bid on Marathon and precipitated U.S. Steel's action.

Boone Pickens comes out the leading hero here with $11 billion of economic contributions. Some of you may think that I have understated Boone's contributions.

While overcapitalization has been widely reduced, diversification is another area where we have seen quite a bit of progress. We haven't seen that much progress yet on deintegration. That, I hope, is the wave of the future.

Shareholders Voting Replaces Takeovers

The big take-overs may be largely behind us. Certainly there are fewer buyers today than there were before. Buyers among the large integrated companies have either done their deal already, or are beginning to think that maybe there are some better things that they can do with their own stock, Atlantic Richfield being an example there. It is unlikely now that Atlantic Richfield would be a buyer of another large company.

The shift from take-overs to shareholder voting was signaled in the Phillips and the Unocal cases. There wasn't any take-over in Phillips or Unocal, but the shareholder vote was very important. At Phillips, the shareholder vote against management was the largest in history.

At Unocal, the vote ultimately didn't go against management, but it was a major influence, in my opinion, in encouraging the management to adopt a more positive program. Initially, remember, the Unocal management responded to the Mesa bid with a poison pill. At that time, had the vote been taken, I think that the management would have been overwhelmingly rejected. But then, the management came back with more positive approaches, an exchange of debt for stock that didn't have the restrictive conditions on it, and the proposal of a limited partnership, which is a step toward deintegration, and a very positive step.

Meanwhile, most of these companies have implemented staggered terms for the directors on their boards. And they have required super majorities, meaning extra high percentages for votes against the management.

I think that boards of directors are becoming like the U.S. Senate where one-third of the terms come up for renewal at every election.

I would like to see some Democrats on the Republican boards and some Republicans on the Democrat boards.

While the purpose of the staggered board was to make it harder to change control, I think that it might make it easier to change control over time. The program could be that as you elect the directors you are not turning over control of the company; you're merely introducing a loyal opposition to the party in power. And then after a year goes by, you can decide whether the party in power deserves to continue in power or whether the opposition should be given control.

While there are some negative elements to the changes in terms of boards of directors, there might be a positive longer-term consequence. In fact, I believe that there will be some nominations of opposing directors next year at more than one large company. The new directors would have a program to improve efficiency or to restructure the company, to reduce overcapitalization, reduce integration, and reduce diversification, depending on the characteristics of the particular company.

Initiators Needed

Initiators of takeovers, like Pennzoil and Mesa, are candidates to be initiatiors in the shareholder voting trend. Instead of suing Texaco, as is the case in a trial now under way, Pennzoil would do better to buy Texaco stock, nominate directors and propose a program.

New initiators might come from the ranks of Southland Royalty, Louisiana Land, Sabine, Adobe--stronger independent companies who could lead the restructuring of an integrated company.

A third category of potential initiators I call low-conflict investors. To define that let us consider who are high-conflict investors.

High-conflict investors are banks who are also lending money to companies and, therefore, very reluctant to vote the shares they might hold in other people's names against the management of those companies. Insurance companies are high-conflict investors. They are lenders. And, of course, both banks and insurance companies are dealing with the public and want to avoid any possible adverse publicity or possible controversy.

Pension-fund managers are also high-conflict investors because they are trying to generate more pension accounts to manage. There can be an indirect relationship. You might lose the pension account of another company if you vote against the management of this company.

Low-conflict investors might be state pension funds. Here there is no corporate connection, and some of the state pension-fund people I have talked to are most upset about the trends in corporate governance.

Of course, private companies also qualify as low-conflict investors.

We don't know who the initiator will be, but we didn't know who the initiator was going to be in the take-overs either, yet the opportunity was so compelling that someone did take advantage of it.

Mobil A Vulnerable Target

My criteria for picking targets are value and vulnerability. Value measured by the McDep ratio means that we want to invest in the most inefficient companies, the companies that have the most to gain by changes.

I define vulnerability in the case of take-overs as size of company. If we think that we are shifting from take-over to shareholder voting, size isn't so much of a concern anymore. All of a sudden the biggest companies are now opened up on a vulnerability basis. The criterion instead of being size is the ownership of the stock.

Let's apply this technique to try to find some targets on our list of the 40 largest holders of U.S. oil and gas reserves. As we run our eye down the value column, the far right-hand column, we see that the best values are in the large integrated group. Not being inhibited by size, we should look at that group first.

On a value basis I think that we can pass on Exxon or Atlantic Richfield. They have done enough to make themselves safe for now. Their McDep ratios are not as low as for some of the other companies. I then proceed to narrow down the companies by the ownership of the stock.

Royal Dutch and British Petroleum are safe enough from shareholder voting. They are headquartered in the U.K. and the Netherlands, and we don't know at this stage what kind of restrictions there might be on shareholder voting in those countries.

British Petroleum owns 55% of Standard of Ohio, so we can eliminate Standard of Ohio as a shareholder voting target.

That leaves Amoco, Chevron, Texaco, and Mobil as the four best candidates in the large integrated group on the basis of value and vulnerability. Of those four, our favorite is Mobil, and the main reason we focus on Mobil is that this is the company that is most obviously inefficient. That is, everyone agrees that diversification is an unsuccessful reinvestment of cash flow.

Given that, we would like to see an investor nominate new directors at Mobil and propose a program to speed up the spin-off of Montgomery Ward and Marcor.

In each case, the management of the company has an opportunity to take actions. That's always been the case in every take-over, and at Unocal and Phillips the management of the company did take action.

At Mobil, we are also impressed that the management is changing. The long-standing chairman is retiring next year; the former president has turned over the reins.

When Amoco changed management, the new management was much better for the stock even though the old management in Amoco's case was very well regarded.

Yet it is unlikely that Mobil management will move so far as to separate refining and marketing from exploration and production. We might get diversification speeded up, but to ultimately get de-integration I think that thera has to be more pressure on the company.

Amerada Hess Disenfranchises Investors

There are also targets among small integrated companies where Amerada Hess stands out. Recall that Mr. Hess raided that fine Oklahoma company, Amerada Petroleum, during the 1960s. He employed the very same techniques that he deplored at his annual meeting last May. He bought Amerada for paper, call it junk financing if you will. Not only that, his paper was disintegrating paper. He used a convertible preferred to buy the Amerada stock, and in that convertible preferred there was a so-called anti-dilution provision. That is, if the Hess shares outstanding increased by more than 2.5% a year, the conversion ratio would be changed. Well, Mr. Hess declared a 2.5% stock dividend for many years, just enough not to trigger the anti-dilution provision. The anti-dilution provision became a dilution provision.

This year Mr. Hess disenfranchised his investors by a technique that I believe the House of Representatives should outlaw. It now requires an 80% super majority vote to approve any major transaction opposed by the board of directors of Amerada Hess. Since Mr. Hess owns some 15% of the stock, it will be nearly impossible to achieve such a super majority.

The shareholders of Phillips voted down a 75% super majority that would become effective in a plan that would place 35% of Phillips' stock with employees. Fortunately the Phillips shareholders had an opposition leader in Carl Icahn which the Amerada Hess shareholders lacked.

Without leadership opposition to management is usually immeasurable. Thus, it is all the more surprising that in the absence of organized opposition, Amerada Hess' 80% supermajority and staggered terms for directors was approved by only 55% of the outstanding shares at the annual meeting last May.

Subtracting Mr. Hess' holding from the 55% of the shares voted to implement the super majority, a majority of non-Hess stock did not vote or voted against. Since Mr. Hess is the beneficiary of the super majority, one has to question whether the outcome is fair to non-Hess stockholders.

The practical counter is for a leader to nominate directors for election by a simple majority. At staggered terms it will take two elections for numerical change of control. Practically speaking, one election, even close, would be a resounding message that inefficient structure cannot be tolerated. The incentive is that if refining/marketing can be separated from exploration and production, the shareholders would benefit from a higher stock price and the economy would be spared wasteful investments such as Mr. Hess recently made in a New Jersey refinery.

Oil Exploration Economics Doubtful

It should be clear that I believe that the restructuring trend has some very beneficial overall implications. The remainder of my testimony addresses additional questions raised by this hearing.

Enthusiasm regarding spending for exploration in the U.S. is declining largely because results have not justified all the efforts. Particularly disappointing is the lack of blockbuster frontier discoveries in the offshore areas. The offshore Atlantic proved to be a bust and results offshore Alaska have not been encouraging enough. It usually takes a huge discovery for a company or the industry to show reasonable exploration and development costs over time.

Finding costs last year, difficult to measure, may have been about $10 a barrel. Applying a rule of thumb of one-third price, affordable finding costs are only $9 as compared to wellhead price near $27 a barrel. Affordable finding costs would be reduced to perhaps $8 a barrel in the event of a decline in oil price to $24. If those comparisons are valid then the spending levels may decline somewhat further. The impact on reserve additions would not be proportional as the least promising projects would be cut back.

There appears to be a strong correlation between cash flow and exploration and development spending. Ultimately that must have an economic justification. Higher oil prices justify higher finding costs which justify higher spending and vice-versa.

Enthusiasm for exploration in other countries appears to be higher than in the U.S. mainly because there has been much less historical activity. New discoveries tend to be larger although far from Middle East size. Occidental's success in Colombia is a good recent example.

Debt Excessive Only in a Few Cases

One of the clearest results of the restructuring trend has been for companies to take on greater leverage. As an advocate of reducing overcapitalization I think that greater leverage for the most part is beneficial. Overcapitalized companies have made wasteful investments in diversified businesses, refining/marketing, and, in some cases, in exploration and production. On the other hand, a ratio of debt in excess of 50% of property is excessive. A bank should not lend more money to a company with debt in excess of 50% of property if most of that property is in oil and gas reserves. Companies dependent on short-term credit are likely to develop liquidity problems at debt ratios that are too high.

Among the 21 integrated oil companies in the DLJ U.S. oil and gas first forty, only two have a ratio of debt to property in excess of .5. Texaco and Chevron at .32 and .33 have a reasonable cushion against declining oil prices. Our estimate of the value of property could decline by a third before a .33 ratio would become .5. Oil prices would have to decline by more than a third for the value of properties which includes natural gas reserves and refining and marketing as well to decline by as much as a third.

Nor does a potential increase in interest rates offer a source of undue concern. At a newly leveraged company like Unocal interest costs are only about 20% of pretax cash flow with the impact even less on an after-tax basis. An increase in long-term interest rates may well be associated with an increase in inflation expectations and, therefore, an increase in oil price expectations. Those two factors tend to offset each other in estimating the value of oil and gas reserves which, in turn, influence loan values.

A decline in the dollar does not appear to pose any particular threat to U.S. oil companies assuming that oil prices remain the same in dollar terms.

Energy Security and the Restructuring Trend

Addressing briefly the matter of energy security last month at a conference sponsored by The Americans for Energy Independence, I tried to show that saving the economy $100 billion through structural changes of inefficient companies could help justify changes in government policies which, in my opinion, do not now favor independence in oil and gas.

On the plus side, we have accelerated leasing, strategic storage, and the intangible drilling write-off. Those are about balanced by the negative effects on domestic supply through the windfall-profits tax and the price regulation of old gas.

While I rate both the windfall-profits tax and the regulation of old gas as sources of inefficiency, the effects are actually small when compared with the $100 billion that we might save through more efficient structuring of the oil and gas industry.

Kurt H. Wulff
(212) 504-4201

Kurt H. Wulff has worked as an oil and gas investment analyst with Donaldson, Lufkin & Jenrette since 1971. Prior to that he worked as a management consultant in the oil and gas industry with Arthur D. Little in Cambridge, Massachusetts. Mr. Wulff started his business career with Chevron Corporation in San Francisco in 1962 where he worked as a design engineer building oil refineries and chemical plants. Born in Wisconsin, Mr. Wulff earned a degree in chemical engineering from the University of Wisconsin and a MBA from Harvard Business School.

Table 1
DLJ U.S. Oil and Gas First Forty
McDep: (Stock Market Capitalization and Debt)/Property
Ranked by McDep

		Price 7/19 1985 ($/sh)	Shares (mm)	Market Cap ($mm)	Debt ($mm)	Market Cap & Debt ($mm)	Prop ($mm)	Property (%) ---U.S.--- Gas	Oil	A	Oth	Debt/ Prop	McDep Ratio
Trusts and Partnerships													
Union Exploration Partners	LP	21E	223	4700	300	5000	4500	58	36	7	0	0.07	1.11
Transco Exp. Partners	LP	22	56	1230	100	1330	1200	58	25	17	0	0.08	1.11
Enserch Exp. Partners	LP	20	75	1500	100	1600	1500	73	10	17	0	0.07	1.07
Freeport-McMoRan Partners	LP	20	45	900	50	950	900	67	13	20	0	0.06	1.06
American Royalty Trust	RT	13.0	46	600	300	900	1200	42	58	1	0	0.25	0.75
Composite				8900	850	9800	9300	59	31	10	0	0.09	1.05
Exploration													
Louisiana Land		32	28	900	600	1500	1800	28	33	11	28	0.33	0.83
Mesa		14.5	68	990	1000	1990	2400	71	10	2	17	0.42	0.83
Southland Royalty		13.4	43	580	300	880	1200	50	42	8	0	0.25	0.73
Composite				2500	1900	4400	5400	52	26	7	15	0.35	0.81
Natural Gas Pipeline													
Texas Oil & Gas		16	210	3400	1100	4500	4500	49	9	11	31	0.24	1.00
Transco		47	24	1130	1600	2730	2900	22	9	7	62	0.55	0.94
Internorth		43	53	2300	5800	8100	9000	16	2	3	79	0.64	0.90
Enserch		24	60	1400	1200	2600	3200	34	6	9	50	0.38	0.81
Panhandle Eastern		35	44	1500	2200	3700	4600	26	4	4	65	0.48	0.80
Columbia Gas		32	40	1300	1800	3100	3900	23	3	3	72	0.46	0.79
Consolidated Natural Gas		43	41	1800	1000	2800	3600	31	4	4	61	0.28	0.78
Composite				12800	14700	27500	32000	27	5	6	63	0.46	0.86
Diversified													
Santa Fe Southern Pacific		34	180	6100	3400	9500	11000	3	9	2	86	0.31	0.86
Burlington Northern		65	74	4800	4400	9200	11000	24	4	3	70	0.40	0.84
Mitchell Energy		13.2	48	630	1100	1730	2300	35	26	4	35	0.48	0.75
Occidental		32	112	3600	5400	9000	13000	24	18	4	54	0.42	0.69
Composite				15000	14000	29000	37000	18	12	3	67	0.38	0.78
Small Integrated													
Coastal		31	33	1000	4900	5900	6000	22	5	2	72	0.82	0.98
Pennzoil		55	51	2800	1400	4200	5000	26	22	6	46	0.28	0.84
Tenneco		41	147	6000	8000	14000	17000	28	15	4	53	0.47	0.82
Union Pacific		52	122	6300	3000	9300	12000	17	13	4	67	0.25	0.78
Diamond Shamrock		17	127	2200	1600	3800	5000	20	6	6	68	0.32	0.76
Dupont		60	240	14400	6000	20400	28000	9	12	2	77	0.21	0.73
Phillips		12.0	220	2600	8300	10900	15000	27	35	4	34	0.55	0.73
United States Steel		28	140	3900	9000	12900	18000	11	25	3	61	0.50	0.72
Kerr-McGee		29	53	1500	1000	2500	3700	19	14	5	62	0.27	0.68
Sun		48	115	5500	3000	8500	13000	23	42	4	31	0.23	0.65
Unocal		28	116	3200	6300	9500	15000	27	30	3	40	0.42	0.63
Amerada Hess		27	84	2300	2000	4300	7000	14	26	6	54	0.29	0.61
Composite				52000	55000	107000	146000	18	21	3	57	0.38	0.73
Large Integrated													
Exxon		53	782	41000	13000	54000	75000	12	27	4	57	0.17	0.72
Atlantic Richfield		59	246	14500	7000	21500	32000	14	56	4	25	0.22	0.67
British Petroleum		29	457	13000	10000	23000	37000	1	27	2	70	0.27	0.62
Chevron		37	342	13000	16000	29000	50000	18	30	4	48	0.32	0.58
Amoco		64	270	17000	5000	22000	38000	26	34	5	34	0.13	0.58
Standard of Ohio		46	235	11000	5000	16000	28000	1	64	6	29	0.18	0.57
Texaco		37	238	9000	13000	22000	39000	15	38	5	41	0.33	0.56
Mobil		30	408	12000	14000	26000	48000	17	17	4	63	0.29	0.54
Royal Dutch/Shell		61	447	27000	10000	37000	70000	11	23	3	63	0.14	0.53
Composite				158000	93000	251000	417000	13	32	4	51	0.22	0.60

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Table 2

Heroes of Oil and Gas Efficiency

Person	Company	Savings ($ billions)	Overcapitalization	Reduction of Diversification	Integration	Explanation
Ted Burtis	Sun	1	x	x	x	
Fred Hartley	Unocal	2	x		x	
Carl Icahn	Icahn	2	x			Portion of Phillips
Edgar Bronfman	Seagram	2	x			Half of Conoco
Edward Jefferson/Ralph Bailey	DuPont	2	x			Half of Conoco
Armand Hammer	Occidental	2	x		x	Half of Cities Service
Dick Morrow	Amoco	3	x	x		
Bill Douce	Phillips	3	x			Portion of Phillips, General American and Reynolds
David Roderick/Harold Hoopman	U.S. Steel	3	x			Half of Marathon
Cliff Garvin	Exxon	4	x	x		
Robert Anderson	Atlantic Richfield	4	x	x		
John McKinley	Texaco	5	x	x		Half of Getty
Hugh Liedtke	Pennzoil	5	x			Half of Getty
George Keller/Jimmy Lee	Chevron	6	x	x		Half of Gulf
Rawleigh Warner	Mobil	8	x			Superior and Half of Marathon
Boone Pickens	Mesa	11	x			Half of Gulf, Half of Cities Service, Half of Unocal, Portion of Phillips and General American
Total		63				

Mr. SHARP. Thank you, Mr. Wulff. I doubt if the questions we ask will be as hard as those you faced in the courtroom recently.

You may have some great ideas on what to do. My general impression is that lots of what we might look upon now as imprudent investment patterns, whether it is in the utilities or the oil industry or Government funds, are more the result of people's misperceptions of what all of us thought were going to happen in the energy marketplace. We started this set of hearings with a litany of the different projections on oil prices, and how wrong they have all been. I used to be a person who believed that if we could just reorganize Congress or the Government or whatever institution is involved, somehow the decisions that would come out would be more substantively correct, wise, and everything else. I think there is an element of truth to that, but I am no longer a complete believer in reorganization. I am a little suspicious that even under a reorganized system we would have any assurance that people would make a wiser decision. Of course, that doesn't mean that maybe it wouldn't be a fairer decision to the people who are putting their money in.

Mr. WULFF. What I am talking about is separating the process of large-scale capital allocation from the process of managing a company. There is no question that the managers of Unocal can run the refining marketing business and the minerals business better than investors can run those properties, but investors can make a better decision as to whether that molybdenum mine should have been expanded.

Investment communities are made up of huge numbers of sophisticated people. There are 400 petroleum investment analysts, thousands of portfolio managers. The aggregate decisionmaking powers of all of those people devoted to this project is much more effective than decisions by one key guy at the top of a large company, so I would like to separate that large-scale capital allocation function from the managing of companies, and then what I am talking about really here amounts to smaller entities.

In a sense, we are substituting the financial markets for the corporate management to govern decisionmaking or to help decisionmaking. A small company that falters is out of business. It is acquired by somebody else. In a smaller form there is more incentive for the management to perform. There would be more accountability and therefore it should work better. We can see that in the stock market today. One of my exhibits has my so-called McDep. the ratio of what investors and lenders pay for properties versus what those properties are worth on their own. That ratio is above one for concentrated publicly traded limited partnerships. It is close to one for exploration companies. It is six-tenths for the large integrated companies, so there are forms in the stock market that investors think are more efficient.

Mr. SHARP. Mr. Thompson, you folks obviously fought off a hostile attempt to take over your company. Are you making any specific recommendations to the Congress as to things that ought to be changed in the law?

Mr. THOMPSON. Mr. Chairman, we have never opposed mergers.

Mr. SHARP. Since you have been successful, you have decided you have got the answer?

Mr. **Thompson**. We are opposed to some of these hostile takeover attempts that have been made on our company and others, strictly for the short-term benefit of the gentlemen on Wall Street, the arbitrageurs, the raiders, and this type.

We think, as we have said before, that there needs to be a leveling of the playing field that we are now participating on, and what we have recommended in the past is that the Congress consider cleaning up some of the abuses of the Hart-Scott-Rodino Act that are going on. That they give consideration to supporting the bill H.R. 998 of Congressman Edwards, where we would have a 6-month moratorium on these takeovers. I believe his bill is relating only to the petroleum industry.

Also H.R.1100 by Congressman Jones recommended that we tax greenmail at 50 percent, and disallow interest deductions on junk bonds, which are helping to promote this thing. These are the only actions that we recommend that the Congress take. We think that the mergers under normal business conditions should continue.

I don't know whether you had a chance to read the article in the July 22 issue of Fortune, but there was an article in there by Harold Williams, who was Chairman of the Securities and Exchange Commission, as you will recall, under President Carter. If I may just quote from this article, and I think it was a very unbiased position:

> The fear of raiders also reinforces an already troublesome emphasis on short-term thinking in American business. The competitiveness of U.S. corporations has already been impaired by the failure to make long-term commitments. To compound the problem because of fears of takeover is a gift to foreign competitors that we cannot afford.

I think that sums it up very well, Mr. Chairman.

Mr. **Sharp**. In other words, the concern about the international competition that you are operating under, is it your view that other international corporations are insulated from those kinds of threats?

Mr. **Thompson**. Much more so.

Mr. **Sharp**. Does this apply to European or Japanese companies?

Mr. **Thompson**. Much more so than in this country, as far as the raiders. As I say, and I repeat, we are not opposed to mergers.

Mr. **Wulff**. We have seen many examples of aggressive smaller companies making an impact internationally, and actually Phillips is more in a smaller company category than a bigger company category.

We don't need $48 billion companies or $36 billion companies or $26 billion companies to be competitive internationally. In exploration and production, if you are a billion dollar company, you can do an awful lot. There are sophisticated mechanisms of risk-sharing among the industry.

I guess—I know that the question of short-term versus long-term comes up all the time. I tend to think that is more of an excuse than an explanation. I would like to think that the work that we are doing on analyzing the value of oil and gas properties is long-term oriented. It is discounted cash-flow type of work that the corporate planning departments do in the oil company.

We are comparing that long-term view with what the stock market pays. The stock market has to have a long-term view. The stock market boils the whole future down into one number. And, comparing one long-term view with another long-term view, we have come to the conclusion that there is something wrong.

Mr. **SHARP**. I don't know if either of you would wish to comment, if you think it is in the realm of things you would like to discuss. This wasn't a topic of the hearing, but we got into it on the previous panel because it has been a current topic here in Washington. On the oil import fee, do you have any strong views on the value or lack of value in that kind of a proposal? If you want to seize this opportunity to express it, we will be delighted to hear from you on it.

Mr. **THOMPSON**. I will be happy to, Mr. Chairman.

Our company is opposed to the import fee for two reasons. First, we think that it will increase the cost of goods and services to consumers; and it will also further reduce the international trade volume and—increase the international trade deficit that we are currently experiencing.

Second, we don't think that this deals with the real issue of expenditure reductions which we must have, and we think that should be the No. 1 priority of this Congress.

Mr. **SHARP**. Mr. Wulff, do you have any comment?

Mr. **WULFF**. When asked about the import fee in recent days, I have said that I thought there could be support. This isn't necessarily my view, but my expectation of what others might do. There could be a support for an oil import fee at a lower price, but I doubt that there would be much support at this level here, and I think that comes through in our discussions today.

Of course, I don't favor floors or ceilings on prices. In the end, though, we do have something of a ceiling on price through the windfall profits tax. So, I suppose I could be persuaded to justify a floor at some point, as well. It would depend on the circumstances at the time.

Mr. **SHARP**. Are you saying that you wouldn't advocate, at this point, the imposition of a fee?

Mr. **WULFF**. No, I don't advocate an import fee, and I am not sure I would advocate at a lower price, either.

Mr. **SHARP**. Mr. Slattery.

Mr. **SLATTERY**. Would you prefer a minimum corporate tax?

Mr. **WULFF**. Give me some of the background on your question, Congressman Slattery.

Mr. **SLATTERY**. Pardon me?

Mr. **SHARP**. He is going to try to limit the world of choices you have got.

Mr. **SLATTERY**. I am just curious. Nobody likes taxes. I don't like them. Senator Dole doesn't like them. The President doesn't like them. The fact of the matter is, we spend 20 percent more than we take in. We have got to raise some money, folks.

I offered to cut Social Security. Nobody wants to do that. I want to freeze defense. Nobody wants to do that. Everybody wants to spend money. There are big spenders on the conservative side and big spenders on the liberal side. Nobody wants to pay the bills and nobody wants to pay taxes.

So, if given the choice, would you rather have an import fee or a minimum corporate tax? I am just curious what would be your choice.

Mr. Wulff. Mr. Slattery, it wouldn't make that much difference to me. I don't feel too competent on commenting on those issues. My main thrust here is that I think——

Mr. Slattery. I know you are not here to talk about taxes, but I am just curious.

Mr. Thompson?

Mr. Thompson. I would say that we would favor neither of those, Mr. Slattery. I think that what we would propose favoring is a further reduction in our deficit spending.

I tell you, in the position that my company is in today, believe me, we know how to cut spending. When you have the debt load that we do, we are forced into reducing our expenditures. And I think that the Congress needs to address that issue first.

Mr. Slattery. What if you get all you can? That is sort of where we are. You know, the President is saying don't touch Social Security. That is what Tip O'Neill says. And the President says, "I want 10 percent more money for defense." He is a big spender there. And then we are piddling around with 20 percent of the rest of the Federal budget.

Mr. Thompson. I guess where I am coming from is, I will have to question: Have we really cut as deep as we can?

Mr. Slattery. Where do you want to cut?

Mr. Thompson. I think there could be some reduction in our defense spending. That would be one area. That is a personal opinion.

Mr. Slattery. I know you didn't come here to talk about that. I just got out of another meeting dealing with this very problem.

Mr. Thompson. I deal with this every day in our own company.

Mr. Sharp. Mr. Slattery is on the Budget Committee, as he may have told you. He has special responsibilities, that we are happy to delegate to him, to have to decide what to do on this.

Gentlemen, we appreciate your time and effort on this subject in helping to get us more up to speed on this fairly fast-changing world, and whether we should keep our hands off or whether we should in any way intervene in it.

We appreciate your being here. Thank you very much

Mr. Thompson. Thank you.

Mr. Wulff. Thank you.

[Whereupon, at 11:50 a.m., the subcommittee adjourned, to reconvene at the call of the Chair.]

[The following letter was received:]

PHILLIPS PETROLEUM COMPANY
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(918) 661-1667

B. M. THOMPSON
VICE PRESIDENT

August 2, 1985

The Honorable Philip R. Sharp
Chairman
Subcommittee on Fossil and Synthetic Fuels
Committee on Energy and Commerce
Washington, DC 20515

Dear Mr. Chairman:

I greatly appreciate the opportunity to present testimony at the Fossil and Synthetic Fuels Subcommittee hearing in Washington on July 30, 1985. I regret that, because of time limitations in the question & answer session, I was unable to make some of the comments which I feel should have been covered. I would like to take this opportunity to express some of my views on the issues which were raised in the testimony and question & answer session of some of the other panel members. The attachment to this letter speaks to these issues.

I commend you for the hearings which you are conducting on the energy security of this nation. As a nation, we simply cannot become complacent with our energy position and it is in the national interest that Congress take action which will ensure an active energy program in this country.

Again, I appreciate the opportunity to work with you on this important project and, if I can be of assistance in the future, please feel free to call upon me.

Very truly yours,

wp
Attachment

FOSSIL AND SYNTHETIC FUELS SUBCOMMITTEE HEARING
JULY 30, 1985

COMMENTS ON TESTIMONY ON THE EFFECT OF
OIL INDUSTRY RESTRUCTURING UPON DOMESTIC PRODUCTION

Comment No. 1 - "The U.S. Petroleum Industry is a sunset industry." Comment by T. Boone Pickens, Chairman Mesa Petroleum.

The U.S. petroleum industry is a mature industry, but those individuals who paint such a "Doom and Gloom" picture are doing the industry and nation a disservice. The industry's performance in replacing reserves over the last few years has not been as negative as some have described, as evidenced by the following table:

	Year-End U.S. Reserves	
Year	Crude Oil (Billion bbls)	Gas (tcf)
1981	29.8	199.0
1982	29.4	201.7
1983	27.9	201.5
1984	27.7	200.2

Gas reserves have essentially remained constant and oil reserves have declined at the average annual rate of about two percent. Granted, reduced drilling activity resulting from lower oil and gas prices plus increased indebtedness by a number of companies will probably result in a more rapid decrease in the near term.

However, Congress should not be misled that the industry is running out of geologically promising areas to explore in the U.S. Alaska, offshore California, the Gulf of Mexico, the Eastern Overthrust Belt onshore, the Anadarko Basin, and the deeper horizons of the Texas Panhandle are a few such promising areas. Additionally, continuing new developments in seismic technology hold promise for increased probability in locating more subtle stratigraphic petroleum reservoirs.

Comment No. 2 - "Major oil companies do a poor job of replacing reserves."
T. Boone Pickens

When reviewing the reserve replacement performance of a company from a national security view, we need to look at the reserves a company adds from all methods (exploration, enhanced oil recovery, extensions and revisions) except acquisitions. During the three-year period 1982-84, five of the current top 11 oil companies more than replaced their produced reserves through methods other than acquisitions. (Phillips Petroleum Company was one of these companies, replacing 103 percent of our reserves). Two companies replaced more than 90 percent and the remaining four varied from 32-87 percent replacement. Mesa, incidentally, replaced 88 percent.

Comment No. 3 - "Management of major oil companies are doing a poor job."
T. Boone Pickens

During 1982-84, Phillips Petroleum Company had an annual increase in net income of approximately 12 percent per year and increased its U.S. reserves (excluding acquisitions). Phillips' income was essentially all petroleum related and the increase occurred during a period of depressed oil and gas prices.

By comparison, Mesa only replaced 88 percent of its U.S. reserves (excluding acquisitions) during the 1982-84 period with a lackluster performance from its petroleum operations. In fact, a review of Mesa's 1984 Annual Report reveals that only 16 percent of Mesa's $254 million net income in 1984 was from its petroleum operations ($214 million being from its trading activities in Gulf Corporation stock). The question arises, "Should a CEO whose company received only 16 percent of its net income from petroleum operations and which had a lackluster performance, be criticizing the managements of major petroleum corporations?" It follows that his company's performance should possibly be compared with those individuals who are in the business of trading in securities and raiding corporations.

Also, many oil company managements have been responding to changes in the petroleum marketplace prior to the outset of the recent wave of hostile takeover attempts. For example, between 1981 and December, 1984, (when Mesa Partners announced its intention to control Phillips) Phillips had reduced employment by 15 percent, had sold many of our non-petroleum subsidiary operations and had revised our capital expenditures in light of the new economics. These changes were being implemented consistent with a long-term, not a liquidation, strategy for the petroleum business in this country.

Comment No. 4 - "Our undiscovered hydrocarbons will not disappear."

T. Boone Pickens

It is true that undiscovered reserves are not going to disappear. However, we simply cannot shut down our exploration and development activity because of the long lead time that is required to place many of our discoveries on production. As an example, Phillips was involved in a major discovery (Point Arguello Field) offshore California. Seismic commenced in the area in 1977; the lease was obtained in 1979; the discovery was made in 1981; and we anticipate having this field on production in 1986 (nine years after seismic began). In other words, we cannot wait until a crisis develops and then determine whether we should go out and explore more actively for oil and gas. Exploration must be an on-going program.

OIL OUTLOOK: PRICE, SUPPLY, MERGERS, IMPORTS, AND TAXES

TUESDAY, SEPTEMBER 10, 1985

House of Representatives,
Committee on Energy and Commerce,
Subcommittee on Fossil and Synthetic Fuels,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2123, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. Sharp. The subcommittee will please come to order.

Today's hearing will focus on issues related to imports of refined petroleum products.

Refining capacity in the United States and Europe is declining while in the Middle East it is expanding. U.S. product imports have been slowly rising for the past 5 years. The possibility has been raised that the trends represent a potential new energy security risk.

Allegations have also been made that product imports are subsidized by exporting countries resulting in product import prices actually lower than crude oil.

Potentially there is a conflict between maintaining a viable and secure domestic refining industry and the benefits to consumers in the short term of lower energy prices.

Is there an appropriate role for the Government in this dilemma? In a previous hearing the Secretary of Energy acknowledged that the United States needs to maintain a certain level of refining capacity for national security reasons. However he declined to quantify the proper level, an issue that is one of great uncertainty in the minds of many as to what that proper level would be.

Today we have witnesses representing refiners, marketers, and users to help us learn more and to discuss the problem.

I regret that it was necessary earlier in the summer for us to delay and reschedule this hearing both because it was an inconvenience to the witnesses who had prepared for the hearing but also because of the importance of the issue and before we hear from our witnesses, I would like to recognize the gentleman from Texas, Mr. Bryant, who has been very deeply concerned about this issue.

Mr. Bryant. Thank you, Mr. Chairman. I first want to commend you for calling this hearing today and for focussing the attention of our subcommittee on this important subject and to examine the impact of petroleum imports on domestic industries and on national security.

I have been appalled, as I know you have, to read the statistics which indicate the decline in production due to refinery closings as a result of the dramatic rise in imports.

The continued expansion of foreign refining capacity will only exacerbate this problem in the future unless something is done to establish a fair trade policy with regard to petroleum imports.

Since 1981 we have lost 115 refineries, 3.5 million barrels per day of production, and over 20,000 jobs. During the same period, foreign capacity has grown to the point that imports have increased 400 percent. We are seeing our domestic industry eroded by policies of foreign governments which own their oil companies so we are not discussing today generally speaking a situation involving free trade.

Along with the trade problem, we must also give serious consideration to national security. At a time when we are supposedly moving away from dependence on foreign crude, we are negating any positive effect by moving toward dependence on refined products.

Should an international crisis occur, the question is who will we depend upon for fuel to run our military equipment and our vital domestic industries?

I look forward to the testimony of our distinguished witnesses on the panel and I will be particularly interested in their suggestions for national policy changes to preserve our industry and our national security.

Also, Mr. Chairman, I am pleased to extend, if I may, a special welcome to Mr. Roger Hemminghaus, a fellow Texan, who is one of the panelists representing the Independent Refiners Coalition.

Since February of this year, Mr. Hemminghaus has been the president of Diamond Shamrock Refining & Marketing Co., based in San Antonio, TX. He has had a distinguished career in the petroleum and energy industry starting with a division of the Exxon Corp. as an engineer, moving to managerial positions and later joining a subsidiary of CF Industries as a refinery general manager indicating, I think, a particular capacity to testify here today.

He was vice president for planning at United Energy Resources, Inc., of Houston, prior to coming to Diamond Shamrock in 1984. I welcome him here as a fellow Texan and also as an individual who, I think, can bring a very unique perspective to the subject that we are taking up.

Mr. SHARP. Thank you very much. I appreciate the gentleman's remarks. Does the gentleman from New Mexico wish to make an opening statement?

Mr. RICHARDSON. Thank you, Mr. Chairman. I also wish to commend you for holding this hearing. I think this is an important issue, refining capacity/national security and also any kind of issue that deals with imports is obviously very topical today and I commend you for holding this hearing.

I look forward to the testimony.

Mr. SHARP. I appreciate the gentleman's remarks. I think there is unquestionably growing concern in Congress and throughout the Congress about the ability of our country to compete and to meet foreign competition which sometimes is subsidized and sometimes has some special advantages and sometimes we lack the efficiencies to compete and it is increasingly on an extremely wide front in the U.S. economy and not just in one product area or one manufacture.

In some sense, this is an element of that much larger picture that has been getting increasing attention, I think, from everyone. I know the gentleman's concern and the gentleman from Texas also has expressed it on many occasions on this particular item.

We now welcome our panelists. We are delighted to finally hear from, not because of their lack of cooperation, but because of our scheduling problems Roger Hemminghaus as our colleague has introduced from the Diamond Shamrock Refining & Marketing Co., Mr. Leonard Steuart, president of the Steuart Petroleum Co. and he is representing the broader Coalition of Independent Marketers, Mr. William Tell, senior vice president of Texaco, Inc., and Carl Bolch, vice president of the Society of Independent Gasoline Marketers of America.

Gentlemen, we will be delighted to hear your oral comments at this time. We will certainly make any written materials that you wish to provide a part of our public record and Mr. Hemminghaus, we will be happy to hear from you at this point.

STATEMENTS OF ROGER HEMMINGHAUS, ON BEHALF OF THE INDEPENDENT REFINERS COALITION; LEONARD P. STEUART II, ON BEHALF OF THE COALITION OF INDEPENDENT MARKETERS; WILLIAM K. TELL, JR., SENIOR VICE PRESIDENT, TEXACO, INC.; AND CARL BOLCH, JR., ON BEHALF OF THE SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA

Mr. HEMMINGHAUS. Good morning Mr. Chairman and subcommittee members. I am Roger Hemminghaus with Diamond Shamrock Refining & Marketing Co. We are a division of Diamond Shamrock Corp., which is an integrated oil and gas company headquartered in Dallas, TX, and after last night's game, I don't know whether I should mention that.

We own and operate two very sophisticated refineries in the State of Texas with a combined capacity of 120,000 barrels per day and produce 75,000 barrels per day of crude oil.

I appear today on behalf of the Independent Refiners Coalition. The IRC represents the interest of 29 domestic refiners with approximately 2 million barrels per day of refining capacity.

Mr. Chairman, the problem is thats today the United States has just enough operating refining capacity to satisfy our need for refined products such as gasoline, heating oil, and jet fuel.

Any further shutdown of U.S. refiners due to importing unfairly subsidized foreign refined products will have serious implications for U.S. national security and the U.S. consumer.

The U.S. refining industry capacity has fallen by 3.5 million barrels since 1981. U.S. historical self-sufficiency is becoming a thing of the past as a result of two ways of refinery shutdowns.

The first phase occurred because of an adjusting for a declining U.S. demand. However, since 1983 a second import driven phase has accelerated with product imports displacing another half a million barrels per day of refining capacity.

To understand why this is happening it must be recognized that worldwide refining industry ownership is changing. In 1973 only 15 percent of the free world refining capacity was government owned. By 1987, over 50 percent of the free world refining capacity will be government owned.

Add to that Communist country refining capacity and the percentage of government ownership and control worldwide is overwhelming.

To penetrate the U.S. market foreign government control refiners are manipulating market forces. They do this by discounting crude oil prices.

Netback analysis indicates that since 1983 most exporters would have lost money if they had paid market price for their crude oil. Government-owned controlled crude oil is sold to government-owned controlled refiners at whatever price is necessary to penetrate foreign markets but not all markets equally.

Products are disproportionately diverted to the U.S. market because of tariff and nontariff barriers in Japan and Western Europe.

The United States is now in the process of rapidly adding a refined product dependence to its already existing crude oil dependence.

Rising imports are not due to inefficiency on the part of the domestic industry. The U.S. refining industry is the world's efficiency and technology leader and it has invested over $12 billion in new technology in very recent years.

Gasoline and other light product imports are increasing because exporters seek through unfair practices to capture a greater share of the U.S. market which is the world's largest gasoline market.

From 1981 through 1984 imports of gasoline and gasoline blend stocks increased 400 percent. Finished gasoline imports reached an all time record level in the last week of May of this year, 736,000 barrels per day.

If no action is taken the U.S. refining industry will continue to decline. In a recent study prepared for the IRC by the Pace Co., a consulting group out of Houston, Pace estimates that an additional 1.9 to 2.4 million barrels per day of U.S. capacity is at risk of being shut down.

All of this brings us to ask an important question. Who benefits from the increased U.S. dependency on product imports?

Certainly not the workers in the domestic industry and related industries who will lose their jobs and not the U.S. consumer. They should not forget what happened when OPEC and other foreign producers began setting crude oil prices.

Once U.S. refining capacity can no longer meet U.S. needs, the foreign refiners will set product prices in the United States and not national security interest.

Dr. Charles Ebinger, a national security expert, has been retained by the IRC to study the national security implications of increased refined product imports.

While this study is not yet complete, Dr. Ebinger has concluded that the current level of dependency on product imports poses a threat to the United States and allied security. This in-depth study will be made available to this subcommittee upon its completion within the next few weeks.

Mr. Chairman, only the foreign producer benefits by his unfair means to unlimited access to the U.S. petroleum product markets. They benefit from capturing the value added in refining, from the jobs created and from the hard currency sales while the U.S. loses.

We must face the fact that there is unfair trade. To meet this problem we suggest updating the U.S. tariff schedule which set the present fixed tariff of 1.25 cents per gallon in 1958 when gasoline sold at wholesale for 11 cents per gallon.

The Anthony bill, H.R. 2354, would accomplish this by setting a two-tier ad valorem tariff rate beginning at 10.8 percent.

For the longer term, we must address the problem of natural resource subsidies. The Gibbons bill, H.R. 2451, is an important part of this long-term solution.

We urge your support for legislation now to provide a level playing field before so much U.S. refining capacity is shut down, that national security is significantly impaired and U.S. consumers are subjected to foreign control of U.S. petroleum product prices.

Thank you, Mr. Chairman. I will be pleased to respond to any questions.

[Testimony resumes on p. 472.]

[The prepared statement of Mr. Hemminghaus follows:]

STATEMENT OF ROGER HEMMINGHAUS
ON BEHALF OF
THE INDEPENDENT REFINERS COALITION
BEFORE THE
SUBCOMMITTEE ON FOSSIL AND SYNTHETIC FUELS
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES

September 10, 1985

Mr. Chairman and Members of the Subcommittee:

I am Roger Hemminghaus, President of Diamond Shamrock Refining and Marketing Company. I am testifying on behalf of my company and the Independent Refiners Coalition (IRC). The IRC is composed of 17 companies and the American Independent Refiners Association (AIRA), a trade association. The IRC represents 29 independent refiners which operate approximately 40 percent of the independent refining capacity of the United States. The independent refining sector represents about one-third of U.S. operating refining capacity. The Coalition's members and production capacities are listed in Appendix A of this statement.

Mr. Chairman, we believe that Congress and the Administration must take immediate action against the adverse effect of increasing gasoline and gasoline blendstock imports on the U.S. refining industry. The U.S. refining industry plays an indispensible role in the military and economic security of the United States and the Free World. We will explain how fundamental changes in world energy trade have resulted in an increased U.S. dependence on refined product imports, directly threatening the continued viability of the domestic refining industry and U.S. national security.

"FREE TRADE" AND TODAY'S OIL AND REFINED PRODUCT MARKET

In the simplest terms, Mr. Chairman, we are not seeking protectionist legislation. We are asking the U.S. government to block or offset distortions in the marketplace caused by foreign governments. We want the marketplace, not oil-producing foreign governments, to determine which refineries stay in business and which refineries shut down. We are asking that all refiners -- government and private -- be required to play by the same rules, based on the market price of crude oil. We are asking that these governments stop giving themselves an unfair competitive advantage by providing their refineries with crude oil at below-market value, while charging us the higher "market price." We are asking that these foreign governments stop selling refined products like gasoline at below cost into a glutted market, absorbing refined product losses in crude oil profits or otherwise. By no stretch of the imagination can such practices be characterized as fair trade, much less "free trade." There can be no free trade without free markets. These market-distorting government practices make it clear there is no free market in international trade regarding crude oil and refined products. We are also asking that the artificial cost advantage given to foreign refiners through the acceleration of lead phase-down and the imposition of other environmental costs be offset by the U.S. government.

If imports of gasoline and other light refined products must be limited, do not lay the cause on "protectionism." It is not "protectionism" to offset the market-distorting actions of foreign governments. Neither is it "protectionism" to offset the cost disadvantage imposed on U.S. refiners by our own government's environmental policies -- policies necessary for the nation's health and welfare.

Mr. Chairman, there are important facts we ask you to consider. There is excess petroleum refining capacity in the world today. Demand in key industrial nations has declined while new export refineries have been, and continue to be, constructed. The construction of these refineries cannot be justified economically. The vast majority of new refineries are owned or controlled by oil-producing governments, and were constructed for the purpose of exporting refined products into other markets. We offer a simple proposition: absent the forces of the free market -- or decisive action by the U.S. government -- it will be left to those governments to decide which refineries stay and which must go. It is obvious which choice these governments will make if we let them.

Mr. Chairman, today U.S. refiners are competing against Petromin, Pemex, Petrobras, Maroven, Lagoven, Petroven, and state-owned oil companies in Kuwait, Libya, China, Romania, Indonesia, the Soviet Union and a host of other countries. These government-owned and controlled oil companies are not primarily concerned with "free trade", free markets or profitable operation. The construction of massive refinery projects and support infrastructure has been accomplished at a very high cost in conjunction with massive governmental assistance. These projects would never have been undertaken without direct government involvement on a huge scale. The same government entities which cartelized oil prices are now in the refined product export business. In an era of falling oil prices, government oil companies are trying to maintain their export revenues and attempting to shore up crude oil prices through the export of refined products, using trade and marketing methods unsupportable by even the most idealistic "free trade" theorists. The result of these actions will be the continued and unwarranted decline of the U.S. refining sector.

We are disturbed by the Administration's refusal to acknowledge and act against the market-distorting practices being used by other governments. Apparently, foreign oil-producing governments have decided to take a large share of the U.S. market for gasoline and other refined products. They can only succeed by giving themselves an unfair competitive advantage, shutting down U.S. refineries to make room for their excess production. We are appalled that some people in this Administration assume that the U.S. must absorb the lion's share of excess foreign refined product exports, allowing foreign refineries to run while U.S. refineries are forced to shut down.

Make no mistake about it -- this is unfair trade. This is not a case of less-efficient, higher-cost U.S. refineries being shut down by more efficient competitors. No matter how hard anyone tries to draw such a picture, the facts remain. The fact is that the U.S. refining industry is now the most sophisticated and efficient in the world. Even the new export refineries in Saudi Arabia are no better than the average refinery in the U.S. Furthermore, it cost Petromin, Mobil and Shell two to three times more to build those refineries than the cost of existing refineries in the U.S. The fact is that the new export refineries in Saudi Arabia and other OPEC countries will probably never recover the cost of investment, even if they survive this "trade war." Those refineries never should have been built. If the marketplace were the final arbiter, these foreign refineries would close down and the U.S. refineries would remain.

Another fact: excess refining capacity no longer exists in the United States. It does exist in Japan, Europe, and areas such as the Caribbean and Singapore. This is in addition to the new capacity in the Middle East and other OPEC countries. The U.S. refining industry today is operating at or near 85 percent of distillation capacity; our "downstream" conversion capacity, including catalytic cracking, is utilized at even higher rates. The industry average utilization over the last 35 years has been 85 percent. Utilization hit 90 percent only twice during this 35-year period. We appear to have excess capacity because the industry is carrying over one million b/d of refining capacity as "idled" but "operable". In fact, much of this is actually shut down and will never be brought back on line. If an emergency arose, most of it could not restart within 30 to 90 days.

FUNDAMENTAL CHANGES AND THE REFINERY SHUTDOWN QUESTION

Two major changes in world product trade have occurred. The first fundamental change in world energy markets involves the nature of competition among refineries. In 1973, only 15 percent of Free World refining capacity was government-owned or controlled. By 1980, about 29 percent was state-owned. By 1984, the total was 42 percent. OPEC countries in the Middle East, Libya and Indonesia will bring on-stream 1.2 million barrels per day (b/d) of new capacity by the end of 1985. By 1987, new OPEC refining capacity is scheduled to be 1.9 million b/d. This new refining capacity will be added to capacity already in excess of Free World demand. When the new OPEC refineries are completed, approximately 50 percent of Free World refining capacity will be state-owned. When the refining capacity in Communist countries which export refined products is included, government influence in world refining is overwhelming.

Oil-producing governments that own refineries have demonstrated a willingness to sell their refined products into a glutted market at prices so low that they produce negative refining margins when compared to the official selling price (OSP) and spot prices for their own crude oil. In order to penetrate the U.S. market, these governments discount the price of crude oil to their own refineries, while charging U.S. refiners higher market prices. They also can sell refined products at a loss and simply absorb refining losses in their crude oil profits. Using this practice, they can undercut U.S. prices in the U.S. marketplace, shutting down U.S. refineries until their market share finally equals their production capacity.

Marketing, processing and countertrade deals are also distorting the energy marketplace in a similar fashion. Such arrangements may be expected to increase as low oil prices continue to exert pressure on producing governments. Kuwait recently purchased another European refinery and is exporting refined products. Kuwait has purchased major processing and distribution facilities in Belgium. Here are some other examples:

o Italy is now the fourth-largest exporter of gasoline and naphtha blendstocks to the United States. Italy is reported to be processing Libyan crude oil, selling the products and paying the revenues to Libya less a processing fee. That may change when Libya gets its new 400,000 b/d export refinery running this year. But that only means the gasoline will come from Libya instead of Italy. Libyan crude oil is embargoed by the United States for national security reasons, yet we may be importing gasoline made from this crude oil.

o Preliminary findings of a national security study in progress by Dr. Charles K. Ebinger of Ebinger International indicate that Greece and Romania are also processing Libyan crude oil into gasoline and other refined products for export.

o Brazil has entered into a barter deal on crude oil with Nigeria that, in effect, gives Brazil crude oil at a cost below world price levels. Brazil is not yet self-sufficient in energy, but was the seventh-largest exporter of gasoline and blendstocks to the United States in the first six months of 1985.

In recent testimony before the Senate Energy Subcommittee on Energy Regulation and Conservation, International Trade Commission Chairwoman Paula Stern indicated that feedstocks were being transferred by government agencies to state-owned refineries at prices substantially below world market prices. More details on these practices in energy producing nations can be found in ITC Report 1696, issued in May 1985.

Saudi Arabia, for example, sells crude oil to joint venture refinery partnerships, ostensibly at the official selling price (OSP). The partnership then sells the refined products to the individual partners at Platt's posted price. Those prices, in June 1985, produced a negative refinery margin of over $2 per barrel. It is clear that such joint-venture partnerships are selling refined products at prices that do not recover cash refining costs, much less any return on investment. Such losses must be absorbed in other ways. A foreign firm engaged in a joint-venture refinery project in Saudi Arabia benefits from low-priced refinery fuel, low-interest construction loans, tax holidays and other government-directed benefits.

The economic practices of wholly-owned government refineries are even more intrusive examples of government energy ownership and production practices. In fact, the current legislative concern over natural resource subsidies derives from foreign governments' provision of energy resources priced at well below "free market" levels to their export industries, while exporting the same raw energy resources at higher market values. Discounting excess crude production for refinery use has eased OPEC's struggle to adhere to production quotas and maintain OSPs for crude oil. That crude would otherwise have to be sold at lower prices in the market.

Only the U.S. government can deal effectively with this disruptive use of monopoly economic power by other governments. U.S. energy and trade policies should not duplicate the direct intervention and discrimination used by foreign governments in petroleum and petroleum product markets. We are not asking for subsidies or a return to energy price controls. Our policies should, however, offset the unfair advantages these governments gain by their actions -- unless or until they are willing to allow market forces to set both crude and product prices, and determine which refineries continue to operate and which shut down.

The second fundamental change involves the changing composition of petroleum and petroleum product imports to the United States. While crude oil and residual oil imports have declined significantly, gasoline and gasoline blendstock imports have increased significantly. This change directly affects U.S. refinery economics, because about half of every barrel of crude oil refined in the United States is converted to gasoline. U.S. market demand for gasoline accounts for half of the Free World's total gasoline demand. If gasoline cannot be refined profitably in the United States, U.S. refineries lose money and shut down. Crude oil imports do not shut down U.S. refineries -- gasoline imports do.

In 1980, U.S. operating refinery capacity stood at approximately 18 million barrels per day. Due to crude oil price decontrol, increased oil prices and a drop in refined product demand in the United States, the refining industry underwent a rationalization period that basically concluded in 1982. The three million b/d of refining capacity displaced during this rationalization mainly involved small refineries unable to cope with the changed economic environment. Also displaced were larger refineries with insufficient flexibility to refine heavier crude oils. While the rationalization was in progress, U.S. refining companies invested heavily to modernize and improve remaining plants. What emerged from the rationalization period was a domestic refining industry ackowledged today to be the world leader in refining sophistication and technology.

In 1983, however, a second wave of U.S. refinery shutdowns began and its end is not yet in sight. Approximately 500,000 b/d of operating refining capacity have been permanently shut down since mid-1983 and over one million b/d of capacity stands idle. Unlike the earlier rationalization, this shutdown wave has involved larger, more sophisticated U.S. refineries. Current U.S. operating refinery capacity has fallen to 14.5 million b/d.

In seven of the last ten quarters, most major and independent refiners alike have posted significant losses on refining operations. Refiners have been losing money because a barrel of refined products has been selling for less than its cost of production. Netback analysis also makes it clear that most foreign refiners could not have exported gasoline to the U.S. at a profit since mid-1983 -- if these refiners were paying market prices for crude oil.

Department of Energy (DOE) statistics show that gasoline imports increased 400 percent from 1981 to 1984. They increased 71 percent in 1984 over 1983. And they have increased 27 percent in the first six months of 1985 over the same period in 1984. In June 1985, Department of Commerce figures show that gasoline and naphtha imports hit 720,000 b/d, a new record. When probable gasoline imports entering under the "Chemical Mixtures" category are included, the total goes even higher.

The source of gasoline and blendstock imports has changed radically in the last year. Imports from Venezuela, our largest foreign supplier, have dropped by 38 percent from 1984 levels. Imports from Saudi Arabia have increased by 484 percent. Imports from Italy have increased 119 percent, and imports from the Netherlands have increased 49 percent. Directly or indirectly, these increases are primarily dependent on OPEC crude oil. Considering the increase in imports from Romania, Brazil, Indonesia, China, Algeria, the U.S.S.R. and Bahrain, our increased dependence on state-owned refineries for gasoline is indisputable.

In a free market, the price of refined products would set the price of crude oil. Crude oil, in its unrefined form, is after all virtually useless.

The value of crude oil is derived from the value of the refined products made from it. Due primarily to the OPEC cartel, this relationship has been inverted. In the present period, the price of refined products has on several occasions fallen below the cost of the crude oil input necessary to refine them. This is due to OPEC's attempt to slow the decline in crude oil prices. Thus OPEC has been instrumental in distorting the basic relationship between product prices and crude oil prices.

During the Second Quarter, refining margins improved as gasoline prices improved. However, the fundamentals remain unchanged. Now that gasoline stocks are near last year's levels and imports have resumed their increase, prices and margins are again falling.

THE EFFECTS OF ACCELERATED LEAD PHASE-DOWN ON U.S. REFINERS

All of the problems faced by domestic refiners do not originate overseas. In a report entitled Lead Phasedown and Product Imports, the Pace Company quantifies the impact of the EPA's sudden acceleration of the lead phase-down requirements applicable to gasoline refined or used in the United States. According to Pace, the EPA's acceleration of its requirements has placed the U.S. refining industry at a further disadvantage in the U.S. market. Simply put, EPA's action will serve to increase imports of gasoline because U.S. refiners will face increased production costs in relation to foreign refiners. Pace puts the potential gasoline import increase due only to accelerated lead phase-down at about 400,000 b/d on average over the next two years.(Appendix E)

Pace's analysis confirms EPA's estimate that the average cost of producing gasoline in the U.S. will increase by about 2.0 cents per gallon as the lead content of gasoline is phased down from 1.1 gram to .1 gram per gallon. This increased cost will start to decline in 1987 as total demand for octane barrels decreases. While these cost recovery problems are of relative short duration, Pace estimates that between 500,000 and one million b/d of U.S. refining capacity will be at risk due to the accelerated phase-down requirements during the 1985 - 1987 period.

In effect, the EPA's action has created an unanticipated marketing opportunity here for foreign refiners. They will be able to produce some high octane unleaded gasoline out of their total gasoline pool at a very minimal cost simply by "leading up" the lower octane gasoline they sell at home. This artificially created cost advantage creates a market incentive, particularly for refiners in Europe, Canada and Venezuela, to export this unleaded gasoline to the U.S. market.

This temporary cost advantage, unintentionally created by the U.S. government, greatly compounds the problems faced by U.S. refiners. The Pace Company, in a previous study of the impact of new Middle Eastern refineries on the U.S. market, estimated that the new Middle East refineries could displace up to one million b/d of U.S. capacity by 1987 and 1.4 million b/d of U.S. capacity by 1990. **The impact of lead phase-down is distinct from the Middle East threat. According to Pace, "These are essentially independent threats, creating a combined risk of 1.9 to 2.4 million BPD [barrels per day]. If these [U.S.] facilities shut down for an extended period, they are unlikely to be available at a later date, due to high recommissioning and restocking expense, equipment deterioration, and scarcity of trained manpower."** In other words, foreign refiners keep their market share and the U.S. refineries shut down, even though the originating problem will have disappeared.

The loss of another 2 million barrels a day of U.S. refining capacity could reduce our ability to drawdown the SPR to rates of 1.2 and 1.9 million b/d at respective capacity utilization rates of 85 and 90 percent. From a national security standpoint, these rates are totally unacceptable. Because EPA's requirement has bestowed an artificial and temporary advantage on foreign refiners, it should be the U.S. government's responsibility to offset this advantage until U.S. refiners have adapted to the accelerated phase-down timetable.

TRADE BARRIERS IN JAPAN AND THE EUROPEAN COMMUNITY

In Japan, a nation totally reliant upon imported energy, the government has used both tariffs and unwritten policies to guard its domestic refining industry. Japan administratively limits product imports, composed primarily of naphtha and fuel oil, to 10 or 11 percent of demand. No gasoline importer is permitted to bring supply into Japan. The Ministry of International Trade and Industry (MITI) in Japan is undertaking a restructuring of Japan's refining industry. Japan may have to cut back excess capacity by up to one million b/d. However, in spite of recent IEA pronouncements, the efforts to open up Japan's markets to gasoline and kerosene imports are only under study by MITI and the industry. Any decision appears to be at least one year away. Because Japan considers its refining industry to be essential to national security, it will yield no more than absolutely necessary to increased product imports.

The communique from the recent IEA meeting indicates that Japan has agreed to open its markets to gasoline and kerosene imports. The Secretary of Energy testified before this Subcommittee on July 15 that he believes this will happen expeditiously and that refined product exports would go to IEA countries on the basis of supply and demand, determined by market forces without distortions. The Secretary indicated that the key words were "expeditiously" and "without distortions." The Secretary also stated that playing by the same rules is the essence of a free market. If we are not all playing by the same rules, there is not a free market.

We are encouraged by this action on the part of the Administration. It is the only action taken to-date. But we are skeptical about how thoroughly and expeditiously Japan will remove its trade barriers to gasoline imports. Furthermore, it addresses only one distortion in the marketplace.

Major questions persist. Exports from the Middle East will continue to increase as more new refineries come on-stream over the next six months. Must we wait for Japan to act while more U.S. capacity is forced to shut down?

Does Japan intend to open its markets to imports from all sources or only from the Middle East? If imports from China, Indonesia and Singapore are not also permitted, their exports will be diverted to the U.S., particularly the West Coast.

Most importantly, when will all of this occur? We are encouraged that Secretary Herrington made the commitment to report progress to the Committee in 60 days. This means that he will report next week. But he also indicated that we should see results by the end of the year, and that if we don't, that is cause for concern. If the U.S. refining industry is expected to wait on Japanese action, will the Administration also ask OPEC and other exporters to await that action?

Secretary Herrington left the impression that the sole world market distortion was the Japanese ban on gasoline imports. He did not mention the many activities engaged in by OPEC countries, nor did he address the problems created by unequal tariff barriers in Europe which function to divert gasoline exports to the United States. Refined products from the Middle East and North Africa enter Europe duty free. This has functioned to back out increasing quantities of European gasoline and naphtha to the United States. Europe imposes a six percent ad valorem duty (equal to 5 - 6 cents per gallon at current prices) on imports from other countries, including the Soviet Union, Romania and the United States. As a result, increasing quantities of gasoline and naphthas from Romania and the Soviet Union are bypassing Europe for the United States.

The U.S. tariffs on imported gasoline have been 1.25 cents per gallon since 1958 and possibly before, when the wholesale price of gasoline was 11.5 cents per gallon. The Congress has not adjusted those tariffs at an ad valorem rate to recognize the sevenfold increase in gasoline prices. This amounts to an effective decrease in the tariff.

A summary of Japanese and European trade barriers which divert excessive gasoline exports to the U.S. market is attached as Appendix B.

NATIONAL SECURITY AND U.S. REFINING CAPACITY

Energy policy and national security policy regarding petroleum and petroleum products are inextricably linked. The focus of this linkage in the past has been to prevent undue dependence on unsecure foreign sources of crude oil. Now that focus must be shifted to gasoline and other light product imports.

Instead of markets allocating the shutdowns, foreign government policies are determining which refineries shut down. Unquestionably, these governments will continue to shift the shutdown burden to U.S. refineries unless the U.S. government calls a halt.

Dr. Charles K. Ebinger, a national security expert, has been retained by the IRC to study the national security implications of increased refined product imports. While the study is not finalized, Dr. Ebinger finds that U.S. dependence on refined product imports from the Middle East and other sources threatens the economic health of domestic refiners and poses a major threat to U.S. and allied security. Dr. Ebinger further concludes that the Administration and Congress should undertake a full investigation of the national security problem now posed by oil product imports, and act to alleviate the problem. This in-depth study will be made available to Members of this Subcommittee upon its completion within the next few weeks.

Dr. Ebinger has determined that domestic refining capacity must, at a minimum, allow for 1) processing all domestic oil and NGL production; 2) utilizing the SPR at full capacity; 3) processing a significant percentage of unaffected supplies of imported crude oil; 4) meeting defense needs in such a way that the civilian economy will not experience a debilitating supply disruption; 5) insuring U.S. ability to meet NATO demand in the event of the loss of European refinery capacity. **Dr. Ebinger's conclusion is that the U.S. refining sector is now incapable of meeting the requirements above, endangering U.S. national security.** The requirements are based on operating refinery capacity at sustainable utilization rates. Operable or "idled" capacity in most instances cannot be brought back on line in time in the event of a supply disruption or military emergency.

Mr. Jeffrey A. Jones, an official of the Department of Defense, testified before the Senate Finance Committee on June 21 that "the worst case security problem posed by product imports that can be described clearly would occur if the domestic refinery base shrank to a point below which Strategic Petroleum Reserve oil could not be refined at home to make up the loss of both crude oil and product import losses."

U.S. refining capacity is already below levels necessary to fully utilize the Strategic Petroleum Reserve at 4.5 million b/d. The U.S. taxpayers have made a $15 billion investment to-date in filling the SPR in order to ensure national security. Today, U.S. refiners could process our domestic production and no more than 2.9 million barrels per day of the SPR while running at the sustainable average utilization rate of 85 percent. If we are able to run at 90 percent nationwide, we could process no more than 3.7 million barrels per day of the SPR in operating refineries. If we lost another one million b/d of operating capacity, we could only process 2.1 to 2.8 million b/d of SPR crude oil. If we lost two million b/d of operating capacity, we could barely refine our own crude and NGL production, much less any significant amount of the SPR or unaffected crude oil imports. Those are simply the numbers and the facts. We clearly face this level of risk today.

At current levels of operating capacity, and even adding the capacity of idled refineries actually capable of restarting, the IRC believes that the U.S. refining industry could not now meet essential military and civilian demand in the event of a serious supply disruption or a mobilization. DOD spokesmen agree with us that we cannot rely on idled capacity to be available in an emergency. There would be serious disruptions and lags in any event.

How vulnerable are we to a disruption in refined product imports? Saudi Arabia has quickly become a major gasoline supplier to this country. Venezuela, Indonesia, Algeria and Bahrain are also significant suppliers. In the event of an OPEC embargo or a disruption in the Middle East, up to two-thirds of present gasoline and blendstock imports are vulnerable; a disruption would reduce exports from Europe, particularly from the Netherlands and Italy, which process significant quantities of crude oil from Kuwait and Libya. Up to three-fourths of gasoline and blendstock imports are vulnerable if Romania, China and the Soviet Union are included. **That means we could count on only about 100,000 b/d of gasoline and blendstock imports in the event of a major disruption and certainly no more than 200,000 b/d.**

Since 1959, successive presidents have taken national security actions on petroleum and petroleum product imports through the use of quotas, license fees and import fees. We have set out the case for action in our testimony. A summary of an extensive memorandum on the use of quotas and import fees on petroleum and refined products used to protect national security in the past under Section 232 of the Trade Expansion Act of 1962 is attached as Appendix C. Section 232 clearly empowers the President to act in the interests of national security. Most recently, Section 232 authority was used by President Reagan to embargo crude oil imports from Libya.

The obvious policy conclusion is to limit gasoline imports to a level that will maintain existing capacity and bring essential idled capacity back on line. Import fees, increased tariffs, quotas or some combination placed on gasoline imports alone would halt the erosion of U.S. refining capacity, at least until Europe and Japan adjust their trade barriers and worldwide excess refining capacity adjusts to current and projected demand levels. This would also solve the problems associated with accelerated U.S. lead phase-down. Changes in the unfair trade laws regarding subsidies and dumping would protect longer-term against unfair and uneconomic trade practices being used by many of these governments. Those laws are currently inadequate to deal with the practices being used. (Appendix D)

The remainder of our testimony details and quantifies the impact of increasing gasoline imports on the U.S. refining industry and national security. In addition, current Congressional actions and proposals are discussed.

THE SHUTDOWN OF U.S. CAPACITY SINCE 1980: TWO WAVES

Independent and integrated domestic refining companies have been injured by the rapid increase in light refined product imports. Most significant for U.S. refiners has been the rapid escalation in subsidized, low-cost gasoline and gasoline blendstock imports. Gasoline imports pose a particularly severe problem because U.S. refinery economics is based on the production and profitable sale of gasoline. Almost half of every barrel of crude oil refined in the United States is converted into gasoline. The U.S. industry is geared to gasoline production for an obvious reason. Our market represents 52 percent of world gasoline demand, compared to only 16 percent in Western Europe and 10 percent in Far East, including Japan. If gasoline cannot be sold profitably in the U.S. market, the result is the shutdown of U.S. refining capacity.

The United States has reduced its operating refinery capacity from 18 million b/d in 1981 to the current level of about 14.5 million b/d, a decline of 19 percent.(Chart 1) The total capacity reduction has occurred in two separate waves.

The first three million b/d of U.S. capacity to shut down included virtually all of the smaller, less-efficient units built during the mid-1970's, as well as more efficient refineries disadvantaged by location and the inability to use heavier crude oils. This first wave of plant closings, completed in 1982, rationalized the industry and left only the more modern, efficient and sophisticated plants in operation.

The second shutdown period began in 1983, after total refined product demand began to increase.(Chart 2) Beginning in that year, the plants which have shut down have been modern, efficient refineries capable of making high-quality light products. These plants shut down as a result of market distorting policies and practices of foreign governments, and increased imports of gasoline and blendstocks which produced negative refining margins for virtually all U.S. refiners. We are encouraged that recent gasoline price improvements have allowed a few of these modern plants to resume operations before their work forces were scattered and their equipment corroded. (Chart 3) However, gasoline prices have again turned downward, meaning that these plants and others like them remain at risk.

While older U.S. refineries were shutting down between 1981 and 1983, the industry streamlined its remaining operations, investing $12 billion in new technology to use heavier crude oil, improve yields of gasoline and other light products, and to meet environmental standards. This upgrading has made the U.S. refining industry "the most flexible in the world and the world leader in refining technology." ("U.S. Refining Capacity Resumes Decline," Oil & Gas Journal, Annual Refining Issue, March 18, 1985). According to the Oil & Gas Journal, U.S. refineries operating today are twice as sophisticated as the world average. In addition, independent refiners today are as complex and efficient as the major oil company refineries.(Chart 4)

Critics have also attempted to assert that a continuous decline in gasoline demand is to be blamed for the second wave of shutdowns. This statement is simply incorrect. U.S. gasoline demand has increased steadily since 1982.(Chart 5)

The real cause of the second period of shutdowns has been rising imports of cut-rate gasoline and blendstocks.(Chart 6) The dramatic increase in imports of gasoline and blendstocks began in the last half of 1983. These imports have driven U.S. refinery margins so low that U.S. refiners cannot continue to justify the operation of their facilities. In seven of the last 10 quarters, most U.S. refineries have posted significant losses.(Chart 7) In short, a barrel of refined products has been selling for less than its cost of production.

To validate the correlation of gasoline imports and refinery margins, we plotted Chart 8, which shows the average annual Gulf Coast operating margins as well as the imports of gasoline and blendstocks since 1975. Chart 8 shows that when gasoline imports increased, margins decreased, and vice-versa. To further verify the cause-and-effect relationship, the margins were plotted directly against the imports in Chart 9. If there is a relationship, these points should fall roughly into a straight line. As you can see on Chart 9, imports of gasoline and blendstocks are indeed the cause of the recent negative U.S. refining margins.

Consumers and the economy have benefitted from the decline in energy costs and the decline in energy use. But we must point out that consumers cannot expect to continue paying prices for gasoline that are below refiners' production costs. Once subsidized gasoline imports force enough U.S. refineries to shut down to balance supply and demand, prices will rise dramatically so that the exporting nations can recover investment costs, transportation costs and the losses incurred during the market penetration period.

IMPORTS

Netback analysis clearly demonstrates that most foreign refiners could not have sold gasoline at a profit in the U.S. market if they had paid market prices for their crude oil inputs. However, this apparent loss has not deterred imports. Net imports of gasoline and blendstocks increased 400 percent from 1981 to 1984, from 103,000 b/d to 411,000 b/d.(Chart 10) Gasoline and blendstock imports equaled about six percent of total U.S. gasoline demand in 1984. It is important to observe that the increase in gasoline imports from 1982 through 1984 exceeded the increase in gasoline demand.

In fact, it is generally conceded by industry observers and critics that actual imports of gasoline and blendstocks are higher than the level indicated by government statistics. Deputy Secretary of Energy Boggs told the Senate Energy Committee on June 4 that imports could be equivalent to as much as eight or nine percent of U.S. gasoline demand, if all refined products convertible to gasoline were accounted for by government reporting statistics. In June 1985, imports of finished gasoline and naphtha averaged about 720,000 b/d or over 10 percent of U.S. demand. You must keep in mind that in a commodity market, where the foreign barrel is the incremental supply, this market share is more than enough penetration to drive prices below breakeven for U.S. refiners.

We witnessed an incredible surge in finished gasoline imports in May of 1985. According to weekly statistics published by the American Petroleum Institute (week ending June 7, 1985), finished gasoline imports alone averaged 736,000 b/d during the last week in May. While June year-to-date U.S. gasoline demand has increased only 1.8 percent from last year, net imports of finished gasoline have increased 55 percent according to DOE statistics. Net gasoline and blendstock imports have increased 27 percent year-to-date June.(Charts 10 and 11)

If we examine the sources of these gasoline imports, we see the pattern changing between 1984 and 1985, with substantially increased volumes from Saudi Arabia, Europe and Canada.(Charts 12, 13 and 14) In addition, Communist nations have become the fifth-largest gasoline import suppliers.

Blanket statements to the effect that total product imports have decreased since the 1970s are misleading. Imports of residual fuel oil have dropped significantly, as has the demand for residual oil in the U.S. market. However, light refined products imports such as gasoline, naphtha, and diesel fuel, have increased.(Charts 15, 16 and 17)

DISCOUNTED CRUDE PRICES AND SUBSIDIZED GASOLINE IMPORTS

The problem of product imports would not be as serious as it is today if the products came from refineries that paid world market crude prices and had to operate at a profit. If they paid world market crude prices, recent netback analyses published in Platt's Oilgram Price Service (June 18, 1985) show that these refineries would be losing money on their refined product slate. About 60 percent of our imports in 1984 came from government-owned or controlled refineries. By various devices, governments discount the price of crude oils used in their state-owned refineries while charging U.S. refiners the higher world market prices. We believe that this discounting practice constitutes a discriminatory subsidy. U.S. refiners cannot compete against this unfair practice.

The subsidies afforded by foreign governments do not stop at a subsidy for the crude oil from which the petroleum products are made. There are additional subsidies, such as discounted refinery fuel, tax holidays, low-cost loans and the provision of other economic advantages.

Many of the products coming from foreign privately-owned refineries, particularly in certain European countries, are produced under net processing deals with oil-producing countries, using discounted crude oil from the oil-producing countries. In these deals, the oil-producing country provides the crude oil at no charge. The refinery sells the refined products at depressed market prices, deducts a processing fee and transfer the net revenue to the oil-producing country. If these private refineries were paying market prices for crude, they would be operating at a loss.

Most of the projected additions to world capacity through 1988 will be government-owned or controlled, and will put even more pressure on refineries that operate for profit. In 1973, only 15 percent of Free World refining capacity was owned by governments. By the end of next year, about 50 percent of Free World refining operations will be government owned or controlled. If refineries in Communist countries are included, the government control of world refining overwhelms private sector refinery ownership.

NEW OPEC REFINERIES THREATEN U.S. REFINERIES

New OPEC refineries will soon export one million b/d of new refined product into a glutted world market.(Chart 18) Saudi Arabia has already established itself as a major foreign supplier. There can be no question that this new supply will adversely impact U.S. refiners. New OPEC refineries pose a significant threat for two reasons: first, the use of crude oil price subsidies to penetrate export markets; second, the diversion of product to the U.S. market due to trade barriers in Western Europe and Japan.

According to a study commissioned by the Independent Refiners Coalition with the Pace Company, the new Middle East refineries cannot compete with domestic U.S. refineries in the U.S. market on a free trade basis -- that is, by paying world market prices for crude oil. The Pace study indicates that new OPEC refiners will penetrate the U.S. market by using price subsidies, discounting their crude oil inputs at prices unavailable to U.S. refiners buying the same crude oil. We ask that a copy of the PACE study be included for the record.

The enforcement of tariff and non-tariff barriers in Western Europe and Japan -- the logical markets for new OPEC production -- will divert a significant amount of the new OPEC gasoline and other refined product to the United States, where the gasoline tariff is the lowest of any major market's. The new products may come directly to the U.S. market, or may enter other markets and "back out" production from those markets into the U.S. market. Either way, this signals a new reliance on OPEC countries for both crude and refined products. This is contrary to market forces as well as common sense.

OPEC and other foreign producers are committed to building more refineries, at a time when U.S. refineries are closing down. Their reasons are obvious. Foreign producers need revenues. The world demand for oil has declined about 16 percent since 1979. OPEC once supplied about 31 million b/d of world oil demand, compared to less than 16 million b/d this year and the "Official Selling Price" (OSP) of oil has dropped from $35 to $28 per barrel.

OPEC revenues from petroleum exports have declined from a peak of $1.1 billion per day to about $450 million per day in 1985. To fund ongoing development programs, OPEC countries have been forced to draw down the huge cash surpluses they accumulated during the 1970s. For example, in 1981, Saudi Arabia, Kuwait, UAE and Qatar had a combined cash surplus of $64 billion. At the end of 1984, these countries were $6 billion in the red. The current account deficit for OPEC in total is estimated at $18 - $20 billion.

Faced with this dilemma, some OPEC nations have decided to export gasoline at subsidized prices as a means of propping up the crude oil OSP, and to replace revenues lost due to deteriorating crude oil markets. By selling refined products on the world market at prices which do not reflect the crude oil OSP, OPEC members with export refineries can move oil that could not otherwise be sold at the OSP. This allows OPEC nations to raise revenues and prop up the OSP of crude oil without overtly violating the Cartel's crude price rules. The Cartel has no agreements covering refined product prices. Without revenues generated by discounted refined product exports, OPEC's OSP for crude oil would be under even greater downward pressure.

In the May 15 hearing before the House Ways and Means International Trade Subcommittee, one witness erroneously stated that there had been a net decrease in refining capacity in the Gulf region because of the war between Iran and Iraq. Information compiled from the Oil & Gas Journal reveals that Middle East crude distillation refining capacity has increased from 2,920,502 b/d in January, 1982 to 3,596,360 b/d in January 1985. Capacity for other operations, especially those that produce gasoline, has also grown.(Chart 19)

NATIONAL SECURITY

Given the size of the U.S. gasoline market, the low tariffs on gasoline imports compared to other major markets and the desire of some foreign governments to enter our refined product market using whatever methods are necessary, there will be no end to the vicious cycle of subsidy, diversion and U.S. shutdowns -- unless a halt to the cycle is instituted by the U.S. government. Foreign refiners must be forced to share the shutdown burden required to balance supply and demand.

The U.S. Government must establish the minimum level of operating refining capacity which would be required to ensure that the U.S. national security is not at risk. Once that level has been determined -- and this determination should be made immediately -- action must be taken to maintain a certain level of domestic refining capacity in operating condition.

The IRC estimates that, today, there are 14.5 million b/d of capacity operating. In addition, DOE reports an additional 1.2 million b/d of "idle" capacity listed as "operable".(Chart 1) The National Petroleum Council (NPC) is investigating the status of refining capacity. The NPC investigation may reveal that much of the so-called idle capacity is past the point of being returned to service. We believe that the "operable" capacity that could be restarted and running at a reasonable output within 30 to 90 days is far less than what DOE estimates.

When determining the capacity utilization of the U.S. refining industry, it is misleading to compare actual output against "operable" capacity. The myth that we have a large amount of capacity which is sitting idle but ready to be quickly returned to service if needed must be dispelled. For national security determinations and purposes, industry output must be judged in terms of plants actually operating. Today, the U.S. refining industry is running at 86 percent of operating capacity. This rate approximates the historical average operating rate of the industry. Only twice in the last 35 years has the U.S. industry exceeded 90 percent utilization for a year's time.(Chart 20)

In the event of an emergency requiring increased output from the refining industry, plants listed as idle would not simply be "turned back on" to achieve increased production. Time and money are involved. We estimate the costs of restarting a 100,000 b/d refinery and training personnel to operate it safely to be as high as $250 million. Industry experience indicates that the government's use of 30 to 90 days as a startup time may be unrealistic.

Once a refinery is shut down, the workers disperse, vital operating equipment is shipped to other facilities, the hardware left behind corrodes, and inventories are liquidated. It can take as long as six months to restore the refinery to operating condition and train new personnel. Also, note that restarted plants cannot be expected to run at 85 to 90 percent rates for some time after restart. In addition, about two months' inventory of crude oil must be purchased and inventories rebuilt before operations can be sustained. Crude oil supplies would be tight during most emergencies. Restarting idle refineries and reestablishing working crude oil inventories would aggravate the shortfall.

Assuming that alternate markets will remain restricted and that new OPEC refineries will run at 85 - 90 percent rates regardless of demand, the Pace Company estimates that imports of finished gasoline and distillate will displace the need for over one million b/d of U.S. refining capacity by 1986 and 1.4 million b/d of capacity by 1990. This would put operating U.S. refinery capacity at just over 13.5 million b/d in 1986.(Chart 1) If this is allowed to occur, the risk to our economy and our national security will become unacceptable. In addition, Pace now estimates the additional U.S. capacity at risk due to lead phase-down at 500,000 to 1 million b/d between 1985 and 1987. Together, the total risk is estimated by Pace at 1.9 to 2.4 million b/d.

A recent Department of Energy study suggests that the U.S. should have 14.9 million b/d of operating capacity at an 85 percent utilization rate.(Chart 21) The current operating capacity of the U.S. refining industry is below this level.(Chart 22) At the current level, the refining industry's ability to respond to a disruption of crude and refined products by drawing on the Strategic Petroleum Reserve is already compromised.(Charts 23 and 24) Also compromised is the industry's ability to respond to the rapid increase in demand that would result in the event of a military mobilization.(Charts 25 and 26) Without adequate refining capacity, the $15 billion investment in the Strategic Petroleum Reserve will fail to serve its purpose. The potential detriment to our economic and military security is directly proportional to the amount of refining capacity we can or cannot draw upon in an emergency.

It has been suggested that the United States could build a strategic reserve for gasoline. However, gasoline cannot be stored for long periods of time without significant deterioration because it gums up. Any "strategic reserve" of gasoline would have to be continuously cycled on a first in, first out basis. This cycling would be difficult because gasoline is blended to seasonal specifications.

The most efficient strategic reserve of gasoline is the refining industry itself. Any other method would prove inordinantly costly and ultimately unworkable.

RECOMMENDATIONS

Mr. Chairman, this Committee has direct authority over the SPR to maintain our national security. There can be no dispute that operating U.S. refinery capacity is already below the level required to process the SPR at 4.5 million b/d. The Secretary of Energy has testified that the Administration will not allow U.S. refinery capacity to get so low that national security is threatened. But no one in the Administration or the Congress has determined that level. We believe sincerely that the evidence we have gathered indicates that we are at that level now, and that further declines put this nation in jeopardy.

The specific issue of an adequate level of refining capacity for national security has never been reviewed. Our concern in the past has been a disruption and shortage of crude oil. There is no question that we have sufficient secure sources of crude oil today if the SPR is adequate. The question today is whether we have enough refining capacity to process it into the products we need.

We believe that the Congress should take prompt action specifically regarding gasoline imports. In this regard, we recommend adoption of Rep. Beryl Anthony's bill, H.R. 2354, which incorporates the recommendations from the recent ITC study and imposes an increased two-tier tariff on imported gasoline and gasoline blendstocks at an ad valorem rate. This bill would provide an interim remedy to meet national security requirements and offset the diversion of gasoline from Japan and the EC by reason of their tariff and non-tariff barriers. Finally, the Congress should also take prompt action to close the loopholes on fuel grade ethanol and gasohol imports.

Furthermore, we support Rep. Sam Gibbons' natural resource subsidy legislation, H.R. 2451. The Gibbons bill is also contained in H.R. 1950, the Trade Law Modernization Act of 1985, introduced by Reps. Frank Guarini and John Duncan. A number of Senators have introduced a companion bill to H.R. 1950 under the title S. 1356. Rep. Henson Moore has introduced similar natural resource subsidy legislation in his bill, H.R. 2345. We also support Senators Baucus and Long in their newly-introduced legislation, S. 1292, to impose countervailing duties when natural resource input subsidies are used by foreign governments to unfairly penetrate the U.S. market. This legislation recognizes a serious inequity and would remove a current weakness in our trade laws.

The natural resource input subsidy legislation would resolve the unfair crude discounting practices in the long term, but will not require Europe and Japan to lower or eliminate their discriminatory trade barriers over the short term. These barriers will cause an additional unwarranted decline in U.S. refining capacity from new OPEC refined product exports. For this reason, the bill does not fully address the dangers facing the domestic refining industry.

More importantly, there is not sufficient time to prevent irreparable injury to the domestic refining industry through traditional unfair trade remedies, even if the trade laws are reformed and strengthened this year. The cases are time-consuming. While this legislative and administration process is taking place, we believe the Administration should take immediate steps to limit gasoline imports, or take other actions as appropriate, to maintain adequate refining capacity pursuant to the President's national security powers.

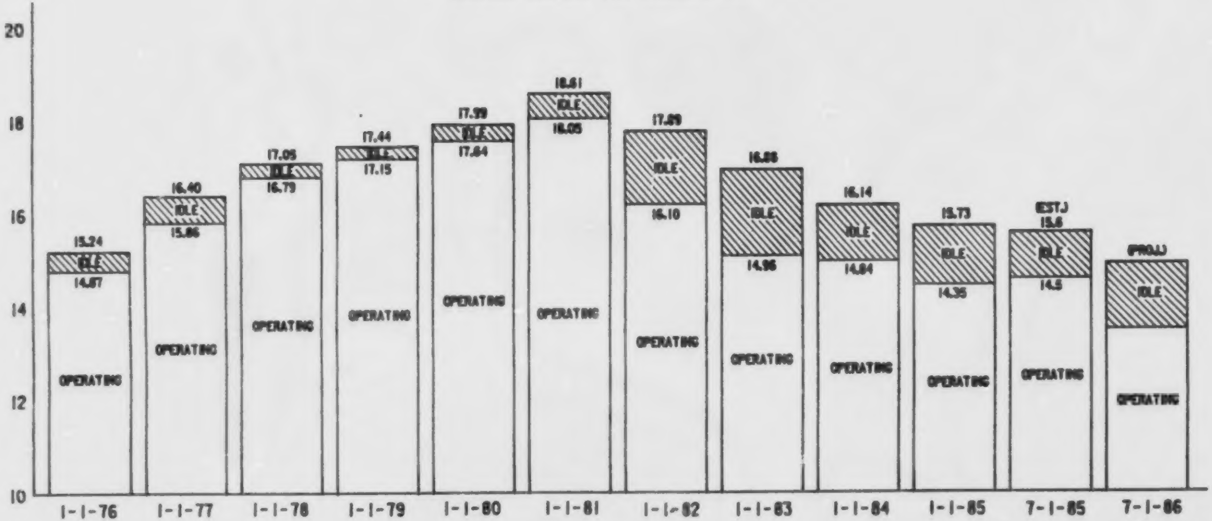
Finally, a significant revision in the trade laws is necessary to deal with imports from nonmarket economies (NMEs). The surrogate country approach in the antidumping laws has been unsatisfactory to domestic industries, NMEs and the Administration.

CHART 1

2

U.S. REFINING CAPACITY

(MILLION BARRELS PER CALENDAR DAY)



SOURCE: DOE/EIA, O&GJ, INC
BY: CDH 6/10/85

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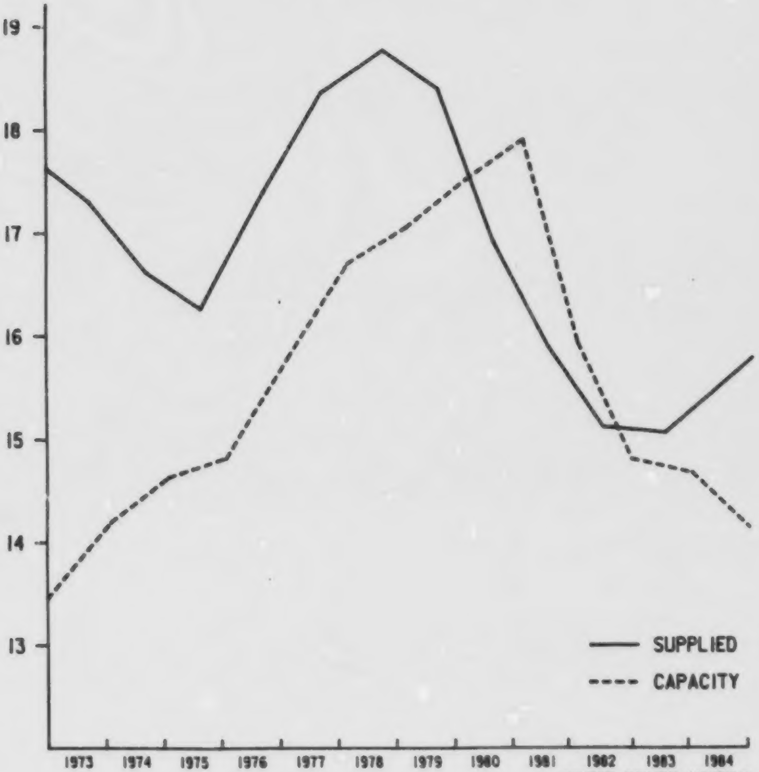
CHART 2

PETROLEUM PRODUCTS SUPPLIED
VS
OPERATING REFINING CAPACITY

(MILLION BARRELS PER DAY)



SOURCE: DOE/EIA, MONTHLY ENERGY REVIEW

CHART 3

U.S. Refinery Status Exception Report

(Refineries shutdown but reported operating by DOE as of 1-1-85 or operating but missing from DOE's capacity survey)

Source	Refiner	Location	Crude Capacity MBCD	DOWNSTREAM CAPACITY Gasoline Reformers MBSD	Cat Crackers MBSD	Hydro Crackers MBSD	Cokers MBSD	Hydro Treaters MBSD	Other MBSD
	Idled or Closed Since 1/1/85								
OGJ	Pester	Eldorado, KS.	33.3	5.7	15.5	--	--	5.5	18.1
DOE,OGJ	Flint Chemical Co.	San Antonio, TX.	1.5	--	--	--	--	--	--
Platts	Texaco	Amarillo, TX.	20.0	5.0	8.0	--	4.0	5.0	1.5
Platts	Texaco	Lawrenceville, IL.	51.0	24.0	34.0	--	--	41.0	34.3
OGJ	Thriftway	Bloomfield, NM.	6.1	--	--	--	12.0	--	23.5
OGJ	Sunland	Bakersfield, CA.	12.0	--	--	--	--	--	--
	Gary Western	Fruita, CO.	15.2	3.4	--	6.0	4.5	3.2	10.0
Total Idled or Closed But Reported Operating by DOE			139.1	38.1	57.5	6.0	20.5	54.7	87.4
	Operating But Missing From Or Idle In DOE Survey Of 1-1-85								
	Charter	Houston, TX.	65.0	13.5	50.0	--	--	44.0	46.8
	Unical	Lemont, IL.	151.0	30.5	58.0	--	28.2	92.8	61.7
	Philbro (Hill)	Krotz Springs, LA.	70.0	--	30.0	--	--	12.0	10.0
	Seminole	St. Marks, FL	15.0	--	--	--	--	--	15.5
Total Operating Now But Reported Down By DOE			301.0	44.0	138.0	--	28.2	134.0	134.0
	Changed Ownership Since 1-1-85								
	Texaco to Coastal	Westville, N.J.	90.0	38.0	40.0	--	--	73.0	47.0
	Arco to Atlantic	Philadelphia, PA.	125.0	60.0	29.0	30.0	--	128.0	25.0

Operating on 1/1/85*	14,360.6
Operating as of 8/1/85	14,522.2

*DOE/EIA U.S. Refining Capacity: 1985

OH/sr 08/14/85

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CHART 4

COMPARISON OF COMPLEXITY AND EFFICIENCY BETWEEN INDEPENDENTS AND MAJOR OIL COMPANIES

	1982		Inds. Adv.	1983		Inds. Adv.
	Majors	Independs	Over Majs.	Majors	Independs	Over Majs.
Complexity	9.11	9.08	(.03)	10.50	10.30	(.20)
Fuel Use (MBTU/Barrel)	536	496	40	663	525	138
Overall Wt. Loss (%)	0.87	0.68	.19	0.61	0.70	(.09)
Cash Operating Costs ($/Barrel)	3.97	3.72	.25	3.78	3.44	.34
Average Plant Age (years)				22	14	8
Number of Refineries in Survey	54	21		46	25	

Source: "Fuels Refining Performance Analysis," Lee H.Solomon

CHART 5

Petroleum

Finished Motor Gasoline Supply and Disposition

		Supply			Disposition				Ending Stocks[1]	
						Product Supplied				
		Total Production	Imports[2]	Stock Withdrawal[1,3]	Exports	Total	Unleaded[4]	Unleaded Percent of Total	Total Motor Gasoline[5]	Finished Motor Gasoline
		Thousand barrels per day							Million barrels	
1973	Average	6,535	134	9	4	6,674			209	
1974	Average	6,360	204	-24	2	6,537			[6]218	
1975	Average	6,520	184	[6]-28	2	6,675			235	
1976	Average	6,841	131	10	3	6,978			231	
1977	Average	7,033	217	-72	2	7,177	1,976	27.5	258	
1978	Average	7,169	190	54	1	7,412	2,521	34.0	238	
1979	Average	6,852	181	2	(s)	7,034	2,798	39.8	237	
1980	Average	6,506	140	-66	1	6,579	3,067	46.6	[6]261	
1981	Average[7]	6,405 −24	167 +24	[6]28	2	6,588	3,264	49.5	253	
1982	Average	6,338 −42	197 +42	25	20	6,539	3,409	52.1	[6]235	
1983	January	6,065	153	[6]-167	(s)	6,051	3,364	55.6	250	207
	February	5,848	128	24	(s)	6,000	3,264	54.4	250	207
	March	5,906	186	768	23	6,836	3,622	53.0	223	183
	April	6,201	255	-3	1	6,452	3,492	54.1	221	183
	May	6,397	305	-83	1	6,617	3,558	53.8	223	185
	June	6,655	277	84	22	6,994	3,792	54.2	223	183
	July	6,707	302	-225	18	6,765	3,746	55.4	231	190
	August	6,537	250	161	13	6,936	3,836	55.3	226	185
	September	6,611	279	-149	14	6,727	3,691	54.9	229	189
	October	6,188	330	72	2	6,588	3,711	56.3	227	187
	November	6,634	269	-298	2	6,603	3,692	55.9	236	196
	December	6,308	224	339	25	6,846	3,966	57.9	222	186
	Average	6,340 −35	247 +35	45	10	6,622	3,647	55.1		
1984	January	6,036	231	-1	1	6,265	3,605	57.5	228	188
	February	6,317	299	-383	2	6,231	3,585	57.5	237	197
	March	6,359	355	-176	9	6,528	3,750	57.4	243	202
	April	6,525	319	-167	(s)	6,676	3,857	57.8	248	207
	May	6,650	346	-105	(s)	6,890	4,004	58.1	253	210
	June	6,619	296	209	17	7,107	4,214	59.3	246	204
	July	6,450	247	142	9	6,830	4,057	59.4	238	200
	August	6,405	242	447	1	7,093	4,283	60.4	224	186
	September	6,516	349	-275	2	6,588	3,973	60.3	234	194
	October	6,388	308	34	1	6,729	4,093	60.8	232	193
	November	6,709	286	-183	11	6,800	4,245	62.4	240	199
	December	6,478	308	-215	16	6,555	4,168	63.6	243	205
	Average	6,453 −79	299 +79	-54	6	6,693	3,987	59.6		
1985	January	[illegible]	204	245	2	6,336	4,026	63.5	234	198
	February	5,900	347	277	2	6,521	4,048	62.1	227	190
	March	6,041	473	118	3	6,629	4,189	63.2	220	186
	April	6,322	475	145	11	6,931	4,377	63.1	217	182
	May	6,533	487	25	8	7,036	4,422	62.8	217	181
	June	R6,766	R384	R-168	7	R6,975	4,456	63.9	R220	R186
	July†	*[illegible]*	*378*	*-236*	NA	*7,001*	NA	NA	*226*	*182*
	Average	6,335 −70	393 +70	55	NA	6,778	NA	NA		
		Less Blendstocks	Plus Blendstocks							

*To compare production and imports columns since 1981 with earlier data, blendstocks must be added to imports and subtracted from production.

---

[1] Stocks are totals as of end of period.

[2] Beginning in 1981, excludes blending components *

[3] A negative number indicates an increase in stocks and a positive number indicates a decrease.

[4] Includes gasohol.

[5] ~~Includes motor gasoline~~ blending components.

[6] In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations. See Note 5 on the last page of this section.

[7] Beginning in January 1981, survey forms were modified. See Note 2 on the last page of this section.

† Italics denote estimates based upon preliminary data. R = Revised data. NA = Not available. (s) = Less than 500 barrels per day.

Notes: • Geographic coverage is the 50 States and the District of Columbia.

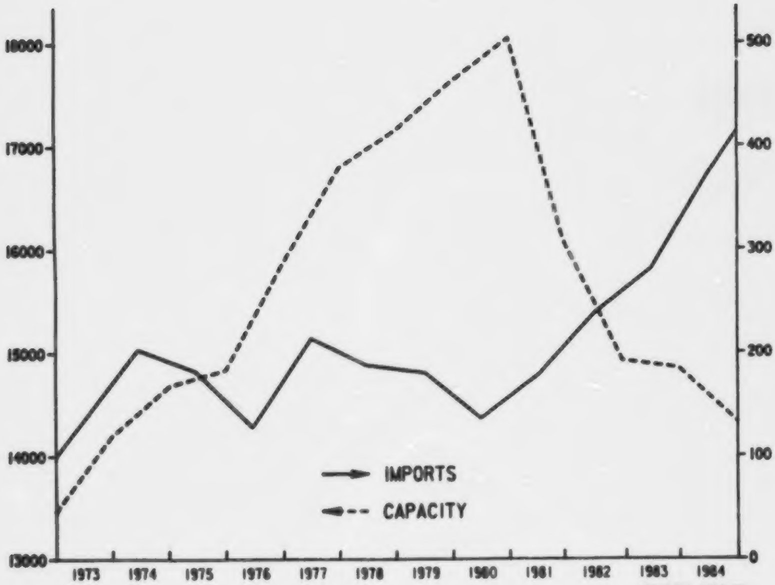
• Totals may not equal sum of components due to independent rounding.

Sources: • See the last page of this section.

CHART 6

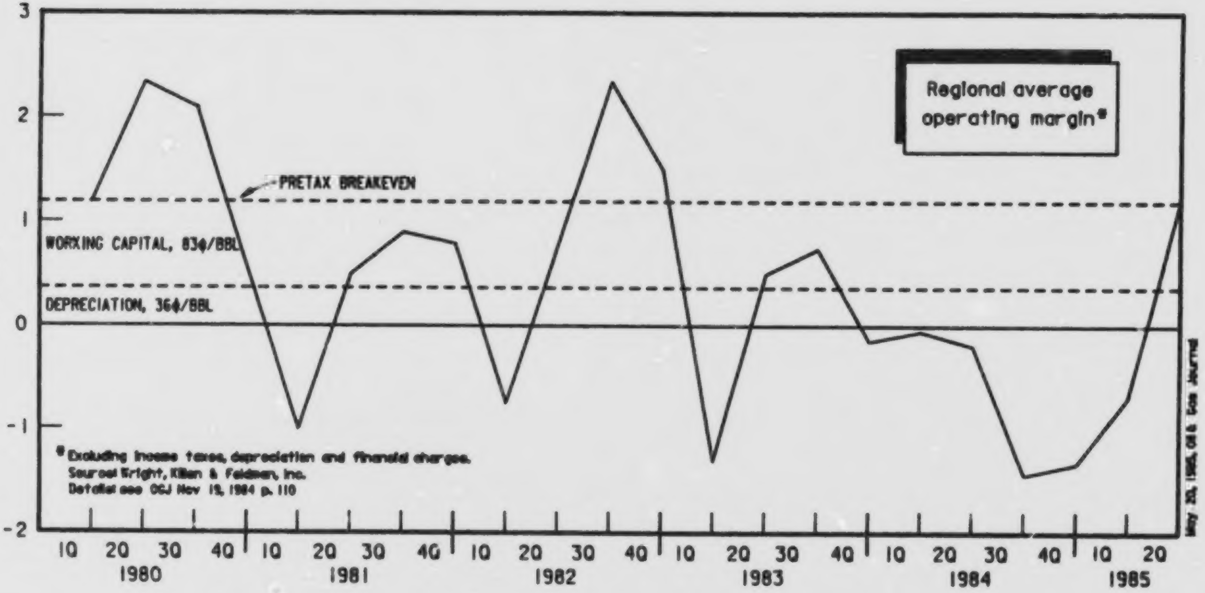
OPERATING REFINING CAPACITY
VS
GASOLINE IMPORTS

(THOUSAND BARRELS PER DAY)



SOURCE: DOE/EIA

GULF COAST REFINING MARGINS



* Excluding income taxes, depreciation and financial charges.
Source: Wright, Killen & Feldman, Inc.
Details: see OGJ Nov 19, 1984 p. 110

May 20, 1985, Oil & Gas Journal

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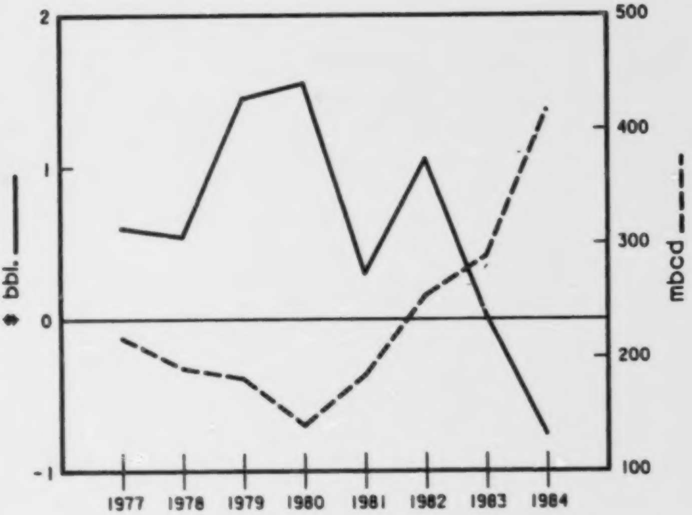
CHART 8

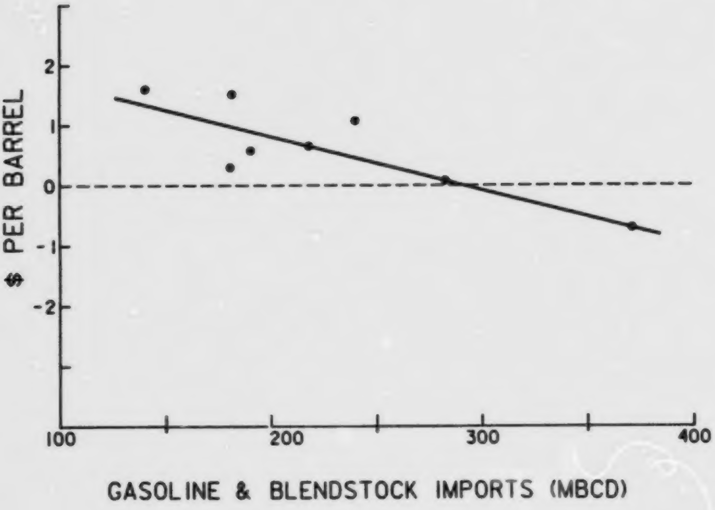
GULF COAST REFINING MARGINS[1]
VS.
GASOLINE & BLENDSTOCK IMPORTS[2]



(1) Excluding income taxes, depreciation and financial charges.
Source: Wright, Killen & Feldman, Inc.
Details see OGJ Nov 19, 1984 p. 110, Apr. 15, 1985 p. 94
(2) DOE/EIA Petroleum Supply Monthly

CHART 9

IMPACT OF IMPORTS ON REFINING MARGINS



SOURCE: DOE/EIA OPA

CHART 10

DOE GASOLINE AND NAPHTHA NET IMPORTS
(Thousand Barrels Per Calendar Day)

Finished Gasoline	1981	1982	1983	1984	1984(1)	1985(1
Aviation Gasoline	0	0	1	2	0	0
Leaded Motor Gasoline	89	128	129	132	147	150
Unleaded Motor Gasoline	68	69	120	159	151	246
Gross Finished Imports	157	197	250	293	298	396
Less:						
Imports From Puerto Rico	26	18	14	13	14	8
Imports From Virgin Islands	54	60	55	49	52	31
Export	2	20	10	6	5	5
Net Finished Imports	75	119	171	225	227	352
Unfinished Gasoline						
Blending Components	24	42	35	79	73	70
Pentanes Plus	3	15	7	46	41	44
Special Naphthas	9	19	23	56	52	32
Petrochemical Naphthas	10	18	12	13	28	18
Gross Unfinished Imports	46	94	77	194	194	164
Less:						
From Virgin Islands & Puerto Rico:						
Blending Components	2	0	0	0	0	0
Special Naphthas	0	0	0	0	14	8
Exports of:						
Pentanes Plus	0	0	0	0	3	2
Petrochemical Naphthas	5	4	5	6	7	5
Special Naphthas	11	5	3	2	3	1
Net Unfinished Imports	28	85	69	186	167	148
Net Gasoline Range Imports	103	204	240	411	394	500

(1) Year-To-Date, June.

Source DOE/EIA.

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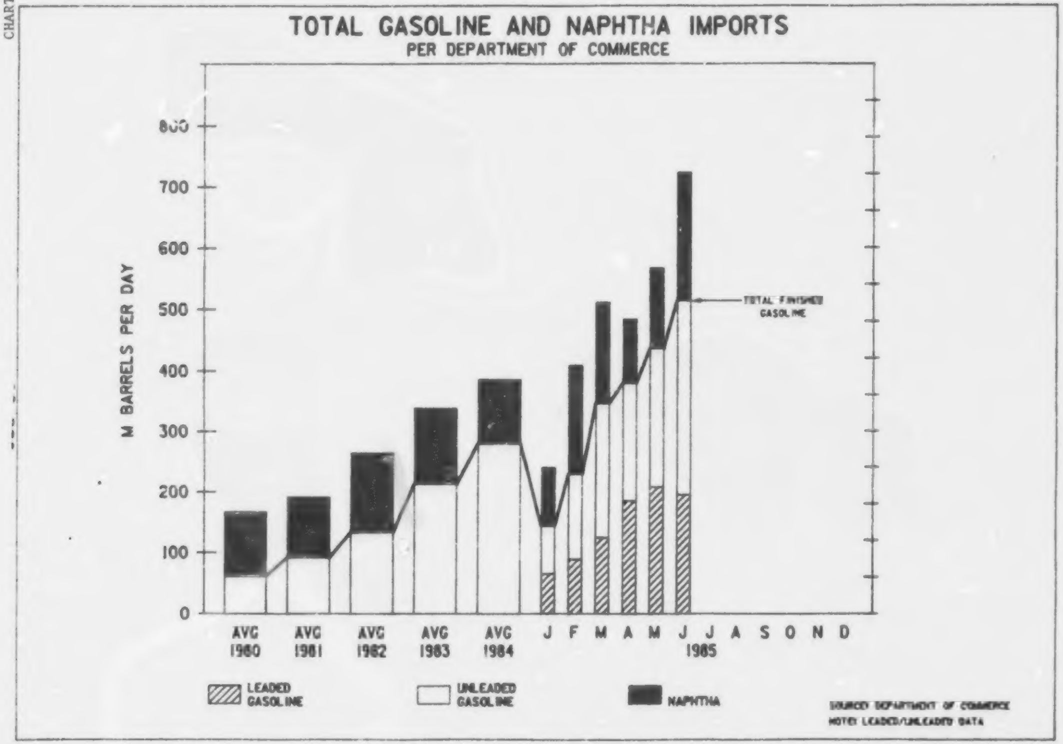
CHART 11



TOTAL GASOLINE AND NAPHTHA IMPORTS

PER DEPARTMENT OF COMMERCE

SOURCE: DEPARTMENT OF COMMERCE

NOTE: LEADED/UNLEADED DATA

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CHART 12

U.S. GASOLINE & NAPHTHA* IMPORTS BY COUNTRY OF ORIGIN

Cumulative January-December 1984

	Country of Orgin	M Barrels	MB/D	% of Total Gasoline & Naphtha Imports		% of U.S. Gasoline Supplied	
				Market Share	Accumulated	Market Share	Accumulated
1.	Venezuela	38,237	104.5	21.8	21.8	1.6	1.6
2.	Netherlands	15,175	41.5	8.6	30.4	0.6	2.2
3.	Canada	12,816	35.0	7.3	37.7	0.5	2.7
4.	Brazil	12,807	35.0	7.3	45.0	0.5	3.2
5.	Romania	12,168	33.3	6.9	52.0	0.5	3.7
6.	China	11,845	32.4	6.8	58.7	0.5	4.2
7.	Algeria	9,167	25.1	5.2	63.9	0.4	4.6
8.	Italy	8,934	24.4	5.1	69.0	0.4	4.9
9.	Netherland Antilles	6,970	19.0	4.0	73.0	0.3	5.2
10.	United Kingdom	6,532	17.9	3.7	76.7	0.3	5.5
11.	Bahamas (N)	5,755	15.7	3.3	80.0	0.2	5.7
12.	Mexico	5,061	13.8	2.9	82.9	0.2	5.9
13.	Indonesia (N)	4,535	12.4	2.6	85.5	0.2	6.1
14.	India (N)	3,406	9.3	1.9	87.4	0.1	6.3
15.	United Arab Emirates	3,036	8.3	1.7	89.1	0.1	6.4
16.	Spain	2,465	6.7	1.4	90.5	0.1	6.5
17.	Belgium	2,373	6.5	1.4	91.9	0.1	6.6
18.	Saudi Arabia	1,869	5.1	1.1	92.9	0.1	6.7
19.	Greece	1,702	4.7	1.0	93.9	0.1	6.7
20.	West Germany (G)	1,474	4.0	0.8	94.7	0.1	6.8
	Other**	9,287	25.2	5.3	100.0	0.4	7.2
	Total:	175,604	479.8	100.0		7.2	

(G) Only gasoline imports.
(N) Only naphtha imports

* Includes imports under TSUSA Nos. 475.35 and 475.25.

** Includes in descending order, France, Trinidad, Argentina, Bahrain, Singapore (N), Peru (N), Yemen, Tunisia, Philippines, Yugoslavia, Norway, Cyprus, South Korea, Uruguay, U.S.S.R., Malaysia, Gabon, and Australia.

Source: Imports--U.S. Department of Commerce, Import Series IM145X; U.S. Gasoline Supplied--U.S. Department of Energy, *Monthly Energy Review.*

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CHART 13

U.S. Gasoline & Naphtha Imports
June, 1985
(Barrels)

Country Of Origin	Leaded Gasoline	Unleaded Gasoline	Naphtha	Total	MB/D
Canada	1,271,865	1,476,090	300,622	3,048,577	101.6
Venezuela	0	1,214,713	1,573,410	2,788,123	92.9
Netherlands	633,843	1,690,626	0	2,324,469	77.5
Italy	1,644,430	426,490	158,734	2,229,654	74.3
Romania	274,059	30,197	1,092,946	1,397,202	46.6
Neth. An.	407,342	834,947	0	1,242,289	41.4
Brazil	230,901	514,579	259,596	1,005,076	33.5
Saudi Arabia	0	977,243	0	977,243	32.6
France	175,027	754,193	0	929,220	31.0
United Kingdom	0	722,687	0	722,687	24.1
India	0	0	639,057	639,057	21.3
Bahrain	262,268	0	270,022	532,290	17.7
Indonesia	0	0	531,770	531,770	17.7
Spain	0	483,886	19,230	503,116	16.8
Belgium	0	0	323,188	323,188	10.8
U.A.E.	312,901	0	0	312,901	10.4
Israel	270,460	0	29,543	300,003	10.0
Greece	50,487	0	239,852	290,339	9.7
U.S.S.R	0	0	283,735	283,735	9.5
Singapore	0	0	248,241	248,241	8.3
Turkey	0	229,725	0	229,725	7.7
China	227,285	0	0	227,285	7.6
Algeria	0	0	221,801	221,801	7.4
Yugoslavia	148,733	0	0	148,733	5.0
Bahamas	0	0	60,627	60,627	2.0
Panama	24,830	27,141	0	51,971	1.7
Argentina	0	0	17,609	17,609	0.6
Undersize	15	0	4,840	4,855	0.2
Total	5,934,446	9,382,517	6,274,823	21,591,786	719.9
MB/D	197.8	312.8	209.2	719.7	

(1)Shipments of less than 10,000 barrels each, details not published by Platts.

Source: U.S. Department of Commerce, Import Series IM145X, as published by Platt's Oil Export/Import Report.

AF:CH/sr
09/05/85

CHART 14

U.S. Gasoline & Naphtha Imports
Cumulative January-June, 1985

(Barrels)

Country Of Origin	Leaded Gasoline	Unleaded Gasoline	Naphtha	Total	MB/D
Venezuela	0	4,927,960	6,859,595	11,787,555	65.1
Netherlands	3,358,194	7,701,036	162,475	11,221,705	62.0
Canada	3,453,930	5,471,125	1,557,863	10,482,918	57.9
Italy	6,585,864	1,995,084	1,090,689	9,671,637	53.4
Romania	274,059	293,296	5,010,320	5,577,675	30.8
Saudi Arabia	542,691	4,842,294	0	5,384,985	29.8
Brazil	1,812,072	2,107,672	280,396	4,200,140	23.2
United Kingdom	494,273	2,679,361	871,784	4,045,418	22.4
Neth. Antilles	1,036,122	1,173,476	1,315,389	3,524,987	19.5
China	2,681,141	234,303	0	2,915,444	16.1
Indonesia	0	0	2,289,734	2,289,734	12.7
West Germany	1,983,294	89,602	0	2,072,896	11.5
Spain	260,221	1,092,221	594,965	1,947,407	10.8
France	175,027	1,412,476	322,494	1,909,997	10.6
Bahamas	0	0	1,572,870	1,572,870	8.7
India	0	0	1,569,028	1,569,028	8.7
Turkey	0	1,059,864	229,404	1,289,268	7.1
Belgium	259,734	417,611	490,802	1,168,147	6.5
Greece	901,232	0	239,852	1,141,084	6.3
Algeria	0	0	918,584	918,584	5.1
Bahrain	262,268	0	586,344	848,612	4.7
U.S.S.R.	427,833	0	283,735	711,568	3.9
Israel	508,187	0	91,476	599,663	3.3
Singapore	0	0	491,185	491,185	2.7
Yugoslavia	323,075	0	0	323,075	1.8
U.A.E.	312,901	0	0	312,901	1.7
Libya	0	0	244,521	244,521	1.4
Peru	0	0	222,929	222,929	1.2
Korea	143,045	0	0	143,045	0.8
Argentina	0	0	105,032	105,032	0.6
Panama	59,843	27,141	0	86,984	0.5
Trinidad	15,036	18,275	0	33,311	0.2
Japan	0	0	13,756	13,756	0.1
Undersized	1,760	10,637	178,415	190,812	1.1
Total	25,871,802	35,553,434	27,593,637	89,018,873	492.2
MB/D	143.0	196.4	152.5	491.9	

(1)Shipments of less than 10,000 barrels each, details not published by Platts.

Source: U.S. Department of Commerce, Import Series IM145X, as published by Platt's Oil Export/Import Report.

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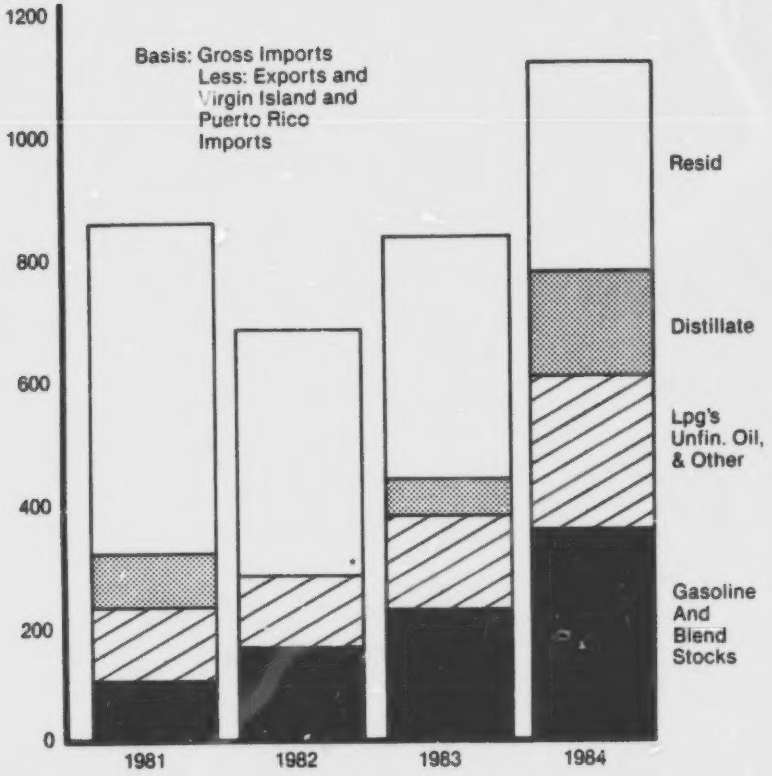
CHART 15

Net U.S. Petroleum Product Imports

MB/Calendar Day

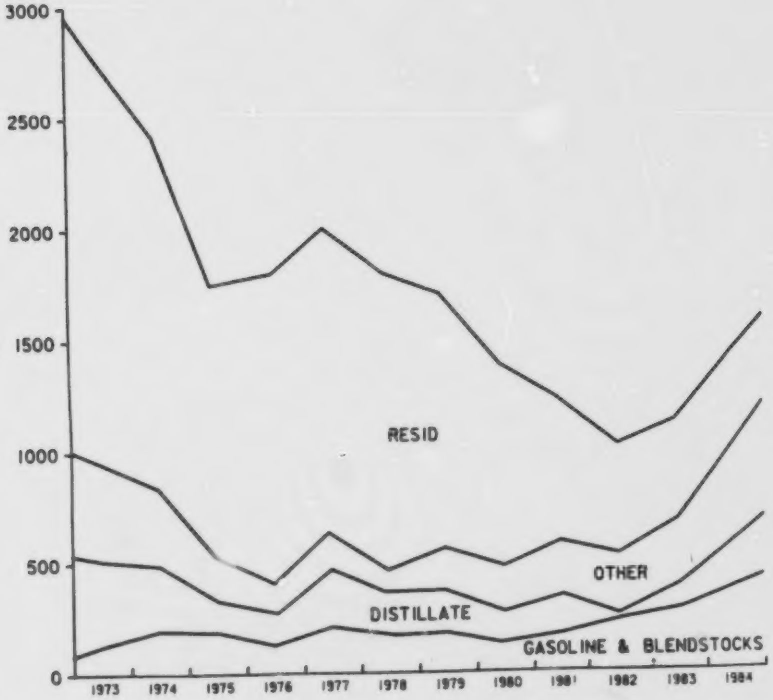


*Net Dist. Export Of 40

Source: DOE/EIA
By: COH 3/28/85

CHART 16

NET REFINED PRODUCTS IMPORTS
(THOUSAND BARRELS PER DAY)



SOURCE: DOE/EIA
MONTHLY ENERGY REVIEW

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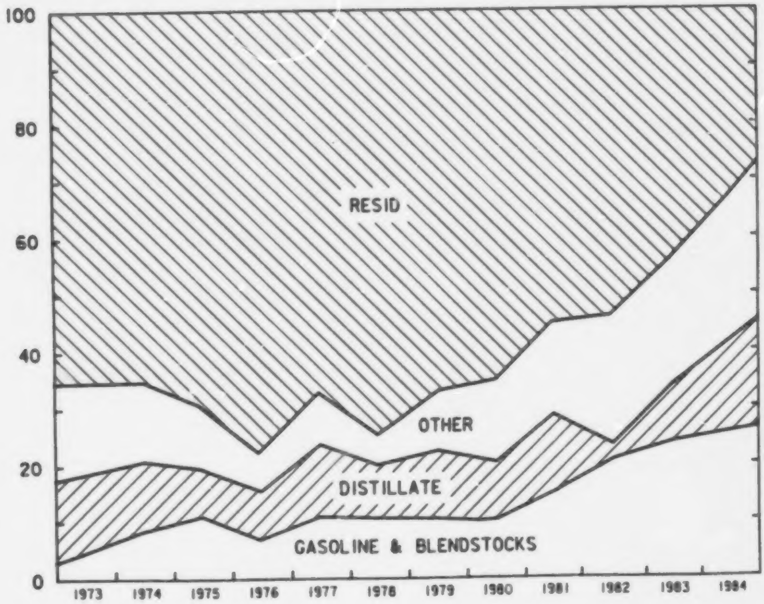
CHART 17

COMPOSITION OF NET REFINED PRODUCT IMPORTS

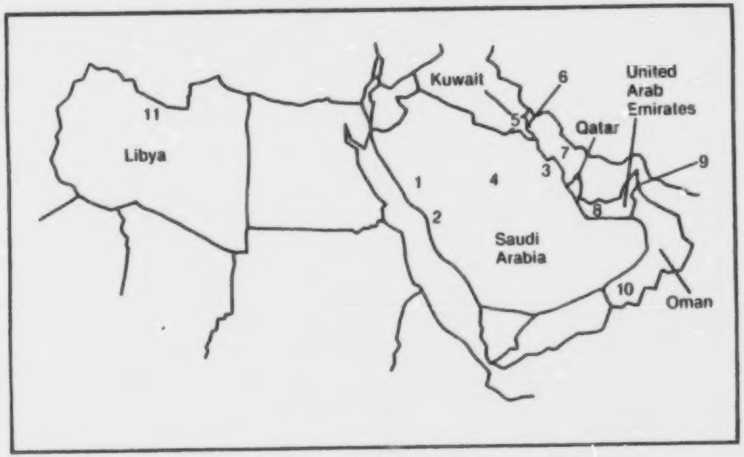
(PERCENT)



SOURCE: DOE/EIA
MONTHLY ENERGY REVIEW

CHART 18

Major Export Refinery Projects


Libya
11
Kuwait
6
5
United Arab Emirates
Qatar
7
3
9
1
4
8
2
Saudi Arabia
10
Oman

1 Yanbu
250,000 B/D
1984

2 Rabigh
325,000 B/D
1986

3 Jubail
270,000 B/D
1985

4 Buraidah
160,000 B/D
1987

5 Mina Abdulla
156,250 B/D
1986

6 Mina Al Ahmadi
170,000 B/D
1984
100,000 B/D
1986

7 UMM Said II
50,000 B/D
1984

8 Ruwais II
185,000 B/D
uncertain

9 Ajman
171,000 B/D
1987

10 Salalah
200,000 B/D
uncertain

11 Ras Lunuf
228,000
1986

Middle East Refining Capacity

Barrels Per Day
As Of January 1

	Crude Distillation	Catalytic Cracking	Thermal Operations	Catalytic Reforming	Hydro-Processing	Other
1978	3,256,913	245,600	60,100	189,470	441,676	720,405
1980	3,202,880	271,704	124,009	208,084	586,819	955,235
1982	2,920,502	262,781	184,109	208,712	482,597	761,059
1983	3,245,583	261,270	188,999	214,273	483,315	778,502
1984	3,430,702	289,270	188,999	263,919	565,833	815,416
1985	3,596,360	332,070	202,999	299,940	840,183	873,228

SOURCE: Oil & Gas Journal

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CHART 20

U.S. Refinery Operating Capacity and Utilization

1950 to Present

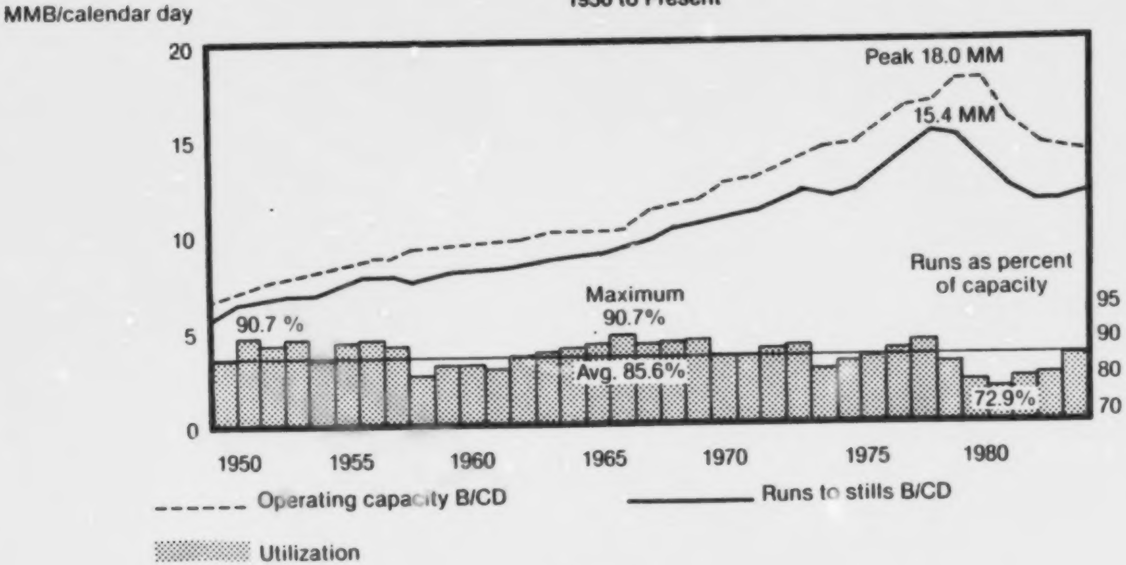


CHART 21

U.S. REFINING CAPACITY REQUIREMENTS

	Million Barrels Per Day	
	1983(1)	1984(2)
Total "Oil" Consumption	15.39	15.71
Less:		
NGL's Consumed Directly	1.62	1.58
Net NGL's Blended in Refineries	0.13	0.13
Intermediate and Blending Components	0.50	0.59
Processing Gain	0.49	0.56
Required Crude Distillation Capacity 100% Utilization, Zero Finished Product Imports	12.65	12.85
Required Calendar Day Refining Capacity:		
@ 90% utilization	14.0	14.3
@ 85% utililzation	14.9	15.1

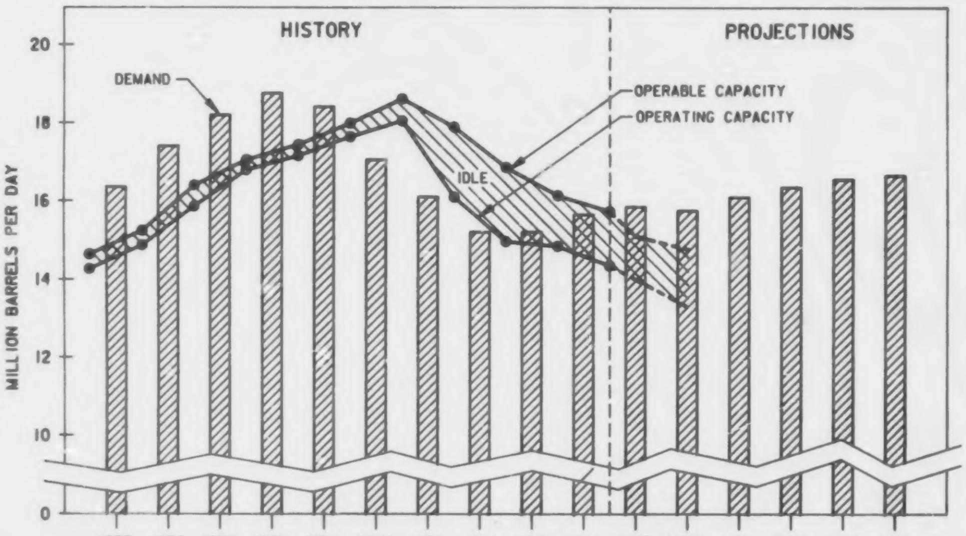
---

(1)"The Changing Structure of World Refining Industry: Implications for U.S. Energy Security," Fereidun Fesharaki and David Isaak, OPEC Downstream Project, East-West Center, presented to DOE January 23, 1985.

(2)DOE/EIA Petroleum Supply Monthly.

CHART 22

U.S. PETROLEUM DEMAND¹ AND CRUDE OIL DISTILLATION CAPACITY, 1975-1990



¹Measured as "Product Supplied".

Note: The dot points to the left of each demand bar represent capacity as of January 1, of the year that the dot precedes.

Source: DOE/EIA.

IMPORTS

CHART 23

U.S. Refining Capacity

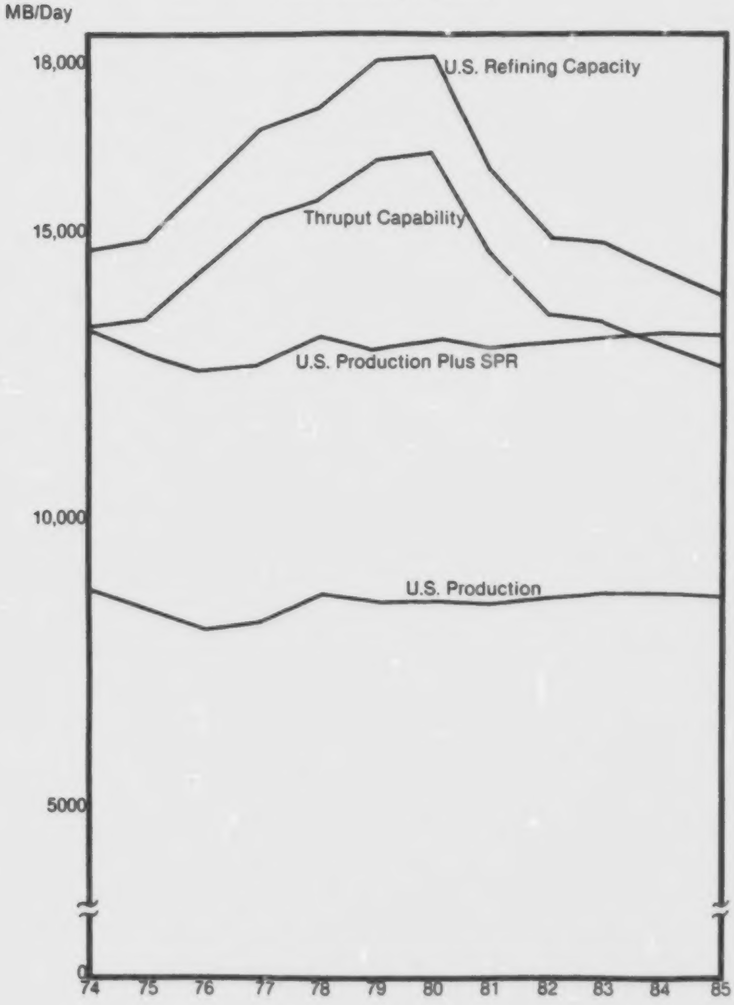


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CHART 24

REFINERY CAPACITY REQUIRED TO PROCESS SPR WITHDRAWALS(1) (MMBCD)

Assumed SPR Withdrawal Rate	2.3	2.9	3.7	4.5
Domestic Crude Oil Production	8.9	8.9	8.9	8.9
NGL's in Refinery Input	.5	.5	.5	.5
Domestic Production to Refineries	9.4	9.4	9.4	9.4
SPR Withdrawal Rate	2.3	2.9	3.7	4.5
Average Capacity Needed:				
@ 100% Utilization Rate	11.7	12.3	13.1	13.9
@ 90% Utilization Rate	13.0	13.7	14.5	15.4
@ 85% Utilization Rate	13.8	14.5	15.4	16.4
DOE Operating Capacity 1/1/85	14.4	14.4	14.4	14.4
Net Changes Since 1/1/85	0.1	0.1	0.1	0.1
Current Operating Capacity 8/1/85(2)	14.5	14.5	14.5	14.5
Additional Refining Capacity Required @ 90%	(1.5)	(0.8)	0.0	0.9
Additional Refining Capacity Required @ 85%	(0.7)	0.0	0.9	1.9

---

(1) Based on DOE/EIA's 1984 Petroleum Balances.

(2) Numbers do not subtract due to individual rounding.

(3) If, as many project, the U.S. operating refining capacity were to decrease 1.0 million barrels per day, the maximum SPR withdrawal rates would decrease to 2.1 MMBCD at 85% utilization and 2.8 MMBCD at 90% utilization. This compares to 2.9 and 3.7 MMBCD at the current 14.5 MMBCD operating refining capacity.

CHART 25

MILITARY FUEL CONSUMPTION*
(thousand barrels)

	1984	1983	1982
Propane	20	5	7
Motor Gasoline	4820	5132	5338
Gasohol	27	39	41
Aviation Gasoline	268	397	595
Total Gasoline	5115	5568	5974
JP4	94614	97179	95771
JP5	20595	21451	22347
JP8	3828	3514	3942
Total Jet Fuel	119037	122144	122060
Distillate	37069	34866	36632
Fuel Oil	11774	11952	13753
Residual Fuel Oil	5187	5121	4726
Reclaimed Fuel Oil	110	29	30
Total Fuel Oil	17071	17102	18509
Total	178312	179685	183182
Total MBCD	487	492	502

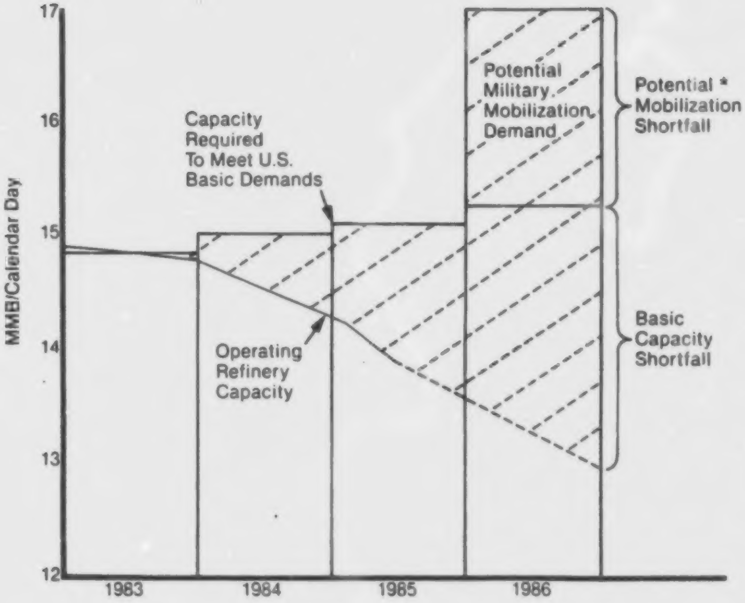
Source: Defense Fuel Supply Center

*Includes fuels for Army, Navy, Air Force, Marines, the Defense Logistics Agency and other Department of Defense agencies.

NOTE: According to Jeff Jones, Deputy Director of Energy Programs in the Office of the Secretary of Defense, at the April 1, 1985 hearing before the Environment, Energy, and Natural Resources Subcommittee of the House Committee on Government Operations. The volume would quadruple to 2 million barrels per day overnight in the event of a mobilization.

CHART 26

Required Refining Capacity Vs. Available Capacity



* Some of the projected shortfall would in fact be met by curtailment of civilian consumption.

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APPENDIX A

MEMBERS OF THE INDEPENDENT REFINERS COALITION

Amber Refining, Inc.

American Independent Refiners Association

American Petrofina, Inc.

Apex Oil Company

Ashland Oil Company

Coastal Corporation, The

Crown Central Petroleum Corporation

Diamond Shamrock Corporation

Indiana Farm Bureau Cooperative Association, Inc.

Macmillan Ring-Free Oil Company, Inc.

National Cooperative Refinery Association

Placid Refining Company

Pride Refining, Inc.

Rock Island Refining Corporation

Tesoro Petroleum Corporation

Texas City Refining, Inc.

Tosco Corporation

Valero Energy Corp./Valero Refining & Marketing Co.

APPENDIX A (cont.)

Capacity Of Members Of The Independent Refiners Coalition

September 3, 1985

Member of IRC Only	Refineries	Total Crude(1) Distillation Capacity MBCD	Operating Crude(1) Distillation Capacity MBCD	Downstream(2) Processing Capacity MBSD
American PetroFina	2	150,000	150,000	303,800
Apex Oil Company	2	104,500	104,500	251,500
Ashland Oil Company	4	353,343	353,343	815,100
The Coastal Corporation (3)	4	261,300	261,300	510,000
Crown Central Petroleum Corporation	1	100,000	100,000	189,500
Diamond Shamrock Corporation	2	126,000	126,000	220,500
Indiana Farm Bureau	1	21,200	21,200	27,100
Placid Refining Company	1	45,000	45,000	54,200
Pride Refining, Inc.	1	42,750	42,750	14,500
Rock Island Refining Corporation	1	43,200	43,200	67,000
Tesoro Petroleum Corporation	1	48,500	48,500	19,500
Texas City Refining, Inc.	1	119,600	119,600	189,200
Member of Both IRC and AIRA				
E-Z Serve Inc. Amber Refining Co.	1	19,700	12,500	18,100
Mac Millan Ring-Free Oil Company, Inc.	2	16,880	15,600	8,190
National Cooperative Refinery Association	1	70,000	70,000	101,000
Tosco Corporation	2	173,000	164,500	404,300
Valero Energy Corp.	1	-0-	-0-	151,500
Member of AIRA Only				
Asamera Oil (U.S.), Inc.	1	26,000	26,000	48,000
Beacon Oil Company	1	17,300	17,300	8,980
Edgington Oil Company, Inc.	1	41,600	41,600	36,000
Fletcher Oil & Refining Co.	1	29,500	29,500	23,650
Holly Corporation	1	30,400	30,400	49,400
Golden West Refining Company	1	40,600	40,600	101,300
Huntway Refining Company	2	12,800	12,800	9,260
Oxnard Refinery	1	4,000	4,000	2,500
Southland Oil Company	2	16,800	16,800	15,946
Sunland Refining Corporation	1	12,000	12,000	-0-
U.S. Oil & Refining, Inc.	1	26,400	26,400	41,500
Young Refining Corporation	1	12,400	12,400	14,110
Total Coalition	42	1,964,773	1,947,793	3,695,635

Source: DOE/EIA U.S. Refining Capacity: 1985

(1) As of 1/01/85

(2) Includes: vacuum distillation, thermal operating catalytic cracking (fresh), catalytic reforming,catalytic hydrocracking, catalytic hydrotreating, alkylation, asphalt, aromatics isomerization, lubricating oils.

(3) Includes Westview, New Jersey Refinery recently acquired from Texaco.

CDH/sr
Rev: 9/3/85

APPENDIX B

TRADE BARRIERS IN THE MAJOR REFINED PRODUCT MARKETS: EUROPE, JAPAN AND THE UNITED STATES

A recent analysis by the consulting firm of Nytex-Bridgeview Petroleum (*Petroleum Intelligence Weekly*, May 6, 1985) compares tariffs and other trade barriers between the three major refined products markets: the U.S., Japan and Western Europe.

Japan has the highest barriers. *PIW* reports, "The present combination of import quotas and tariffs virtually rules out imports of gasoline and many other light finished products, but is less stringent on naphtha and straight-run low sulphur fuel oil." If Japan did allow any gasoline imports, the effective tariff would be $2.22 per barrel.

EC tariffs are lower than Japan's, but higher than U.S. tariffs on most products. Naphtha and crude enter the EC tariff-free. Arabian and North African producers enjoy preferential duty-free status (GSP) on all petroleum products, but only up to a specified level. This limitation has not generally been enforced to-date. The EC's non-preferential gasoline tariff is 6 percent *ad valorem*. This tariff largely keeps out gasoline from non-preferential sources like the United States, Eastern Europe and the Soviet Union. This *ad valorem* tariff may be applied to imports from Arabian and North African producers that exceed their GSP-allowable levels. The gasoline tariff in Europe is $1.66 per barrel.

U.S. gasoline tariffs are generally the lowest. The effective tariff rate is 52.5¢ per barrel, or 1.25¢ per gallon.

The new trade issue facing Japan, Western Europe and the United States is where the product flow from the new export refineries in the Middle East will go. These government refineries will run at the 85 - 90 percent rate regardless of demand conditions in export markets, absorbing any losses on refined product sales by discounting crude input prices from world market levels.

The EC estimates that new refining capacity in just three countries -- Saudi Arabia, Kuwait and Libya -- will produce about 1.2 million b/d of new refined products for export by 1990. The EC anticipates being able to absorb no more than one-third of this new supply. The EC is proposing that the U.S., Japan and the EC should enter bilateral agreements to accept a third of this new supply each (*Commission of the European Communities Report*, Brussels, March 1, 1985).

There is a major obstacle in the way of such concordance. The Japanese have rejected the notion of sharing the new Middle East exports (*Platt's Oilgram News*, May 23, 1985). Currently, Japan does not permit any gasoline imports at all.(Appendix B) Japan bases its restrictive policy in part on national security requirements and in part on economics. In Japan, high gasoline prices subsidize the production of lower-cost kerosene, Japan's major source of home heating fuel. Japan will be reluctant at best to import gasoline at the risk of shutting down its refineries and raising the price of home heating fuel.

Press reports have indicated that U.S. diplomatic sources assert that market forces should direct the flow of this new production. Because transportation costs from the Persian Gulf to Europe and the Far East are significantly below transportation costs to the United States, market forces should direct the product to those two regions. But if Europe takes only one-third of the new production -- in effect, limiting imports of all refined products to a net of seven percent of total demand -- and Japan keeps its market closed, the lion's share of the new product will come to the United States. It will be sold at whatever price is necessary to penetrate this market.

APPENDIX B

THE WASHINGTON POST, January 17, 1985

Oil Firm's Bid to Import Gasoline Into Japan Fails

By John Burgess
Washington Post Foreign Service

TOKYO, Jan. 16—A maverick Japanese oil company has failed in an attempt to break a long-standing informal ban on importing gasoline into Japan, but says it will try again soon.

Lions Petroleum Co. brought a tanker carrying 800,000 gallons of premium gasoline refined in Singapore to Kobe in December, intending to price it below domestic brands at neighborhood filling stations.

But following pressure from the company's bank and the Ministry of International Trade and Industry (MITI), it abandoned the plan and sold the shipment to a refinery for reprocessing, according to company President Taiji Sato.

MITI contends that the cheap fuel could have helped disrupt price stability in a strategic commodity and put further pressure on Japan's seriously ailing refining industry.

Last year, the government went on record favoring the liberalization of petroleum product imports, officials say, but wants it to come slowly to assure stability during the transition.

But Sato rejects these arguments. "If I can get financial support, I'm willing to try it again," he said. "If I had a sponsor, an American bank, for instance, I would be ready to proceed." He said he planned to return to Singapore later this month to negotiate another purchase.

Sato's move, which he said he planned for 18 months, is highly unusual in Japan, where large and small companies alike generally play according to rules set by gentleman's agreement and government guidance.

Today, the action drew condemnation from the Petroleum Association of Japan, which links the country's 29 oil refining companies. Its president, Yasuoki Takeuchi, told a press conference that any imports should be handled by association members, not outsiders like Lions.

Sato's attempt also has drawn attention to the strict controls and protection that Japan maintains for some industries that are not internationally competitive, despite much-publicized steps toward liberalization of imports in recent years.

Japanese consumer spokesmen, meanwhile, have criticized the government for blocking the introduction of lower-cost gasoline.

Sato said that the lower prices charged by the Singapore refinery would have allowed him to sell the fuel to motorists in Japan for about 10 cents per gallon cheaper than domestic gasoline.

With virtually no oil resources of its own, Japan imports about 4 million barrels of petroleum per day. Eighty percent of it is crude oil. Refined products that are allowed in center on naphtha and fuel oil.

Japan's highly mobile society consumes about 9 billion gallons of gasoline per year, all of it refined in Japan. There is no formal ban on imports, but because of "administrative guidance" from MITI and consensus within the industry, none come in.

Japan invested heavily in refineries in the 1970s. But the two oil shocks of the decade left it with much idle capacity. Many of the 29 refining companies are ailing badly, with government encouraging mergers to create units that are more viable financially.

Domestic prices are not formally controlled. But an elaborate structure has emerged in which prices remain stable, with gasoline selling at a comparatively high price to allow cheap prices for kerosene, an important home-heating fuel here.

Meanwhile, Japan has come under fire from the International Energy Agency for the product import controls. During a visit to Tokyo earlier this month, IEA Executive Director Helga Steeg stressed the need for freer flow. However, Foreign Ministry officials say she did not specifically comment on the Lions case.

THE OIL DAILY, THURSDAY, JULY 11, 1985

Japan Downplays IEA Pact on Imports

TOKYO — Japan made no clear-cut commitment to liberalize imports of refined products at Tuesday's International Energy Agency (IEA) ministerial meeting in Paris, officials at the natural resources and energy office of Japan's Ministry of International Trade and Industry said Wednesday.

The statement released at the end of the IEA session reflected Japan's stance that product import policies must take account of national security, an agency official said.

MITI's petroleum council is reviewing possible expansion of oil product imports and Japan will act in accordance with the IEA statement, he said without elaborating.

Nippon Oil Co. Ltd., Japan's largest oil marketing company, said in a press release the IEA statement was in line with current Japanese import policies.

The final statement from the IEA meeting in Paris made no mention of Japan, which was under pressure from the U.S. and the European Community to open its market to product imports, and said member countries had agreed to open markets in a way which would allow imported products demand to be determined by market forces.

An official at a major refinery said it was unclear what impact the IEA meeting would have on MITI's petroleum policies and any recommendations the petroleum council might make in its review. The council's study will not be ready until spring 1986.

While Japanese officials and industry executives were downplaying the IEA agreement, diplomats in Paris said it marked a major concession by the Japanese and probably headed off a serious row between Western Europe and Japan.

"We have achieved a major advancement in promoting our open market policy," U.S. Energy Secretary John S. Herrington told a press conference after the meeting.

Nicolas Moser, a member of the European Commission who attended the meeting as an observer, hailed the apparent agreemnt as a major success for the community's diplomacy.

U.S. and European diplomats said Japanese restrictions on oil product imports — particularly from the big new refining complexes coming on stream in Saudi Arabia's Red Sea industrial cities — were a major issue at the daylong IEA session.

The final statement contained no timetable for compliance with the goal of opening markets, but officials were confident that Japan would abide by the agreement.

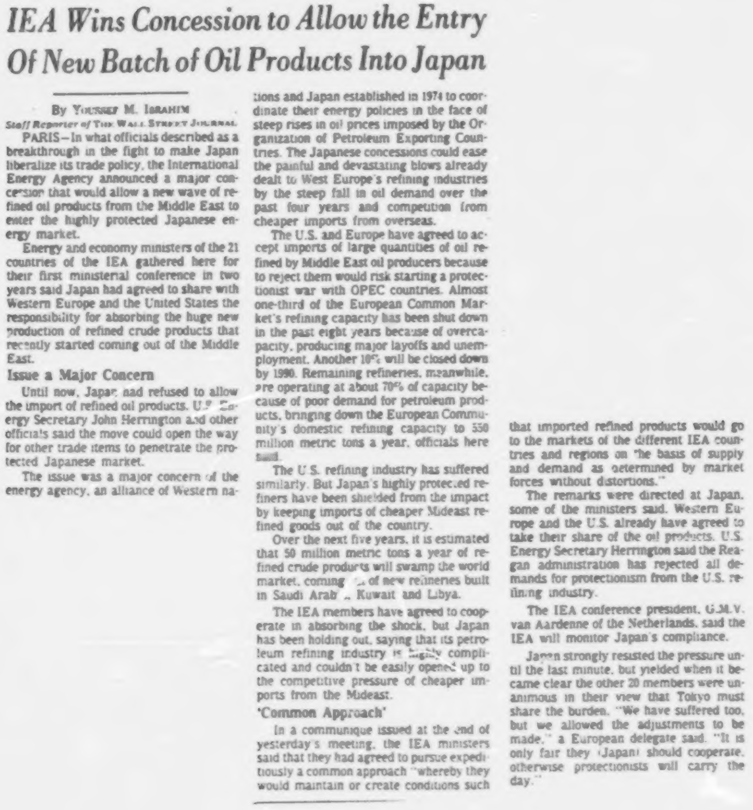
IEA Executive Director Helga Steeg said the agency would monitor each nation's progress toward opening its markets and would report "at short intervals" on compliance to the accord.

Earlier, West German Minister of Economics Martin Bangemann warned that Europe would take into account Japan's stance on oil prodcts when it reviewed Tokyo's call for easing import restrictions on Japanese products such as video recorders.

The IEA ministers also ruled out any formal multilateral talks with oil producing countries, despite some countries' call for greater cooperation between oil producers and consumers, but did not prohibit bilateral exchanges between member states and OPEC.

APPENDIX B

THE WALL STREET JOURNAL, Wednesday, July 10, 1985



IEA Wins Concession to Allow the Entry Of New Batch of Oil Products Into Japan

By YOUSSEF M. IBRAHIM

Staff Reporter of THE WALL STREET JOURNAL

PARIS—In what officials described as a breakthrough in the fight to make Japan liberalize its trade policy, the International Energy Agency announced a major concession that would allow a new wave of refined oil products from the Middle East to enter the highly protected Japanese energy market.

Energy and economy ministers of the 21 countries of the IEA gathered here for their first ministerial conference in two years said Japan had agreed to share with Western Europe and the United States the responsibility for absorbing the huge new production of refined crude products that recently started coming out of the Middle East.

Issue a Major Concern

Until now, Japan had refused to allow the import of refined oil products. U.S. Energy Secretary John Herrington and other officials said the move could open the way for other trade items to penetrate the protected Japanese market.

The issue was a major concern of the energy agency, an alliance of Western nations and Japan established in 1974 to coordinate their energy policies in the face of steep rises in oil prices imposed by the Organization of Petroleum Exporting Countries. The Japanese concessions could ease the painful and devastating blows already dealt to West Europe's refining industries by the steep fall in oil demand over the past four years and competition from cheaper imports from overseas.

The U.S. and Europe have agreed to accept imports of large quantities of oil refined by Middle East oil producers because to reject them would risk starting a protectionist war with OPEC countries. Almost one-third of the European Common Market's refining capacity has been shut down in the past eight years because of overcapacity, producing major layoffs and unemployment. Another 10% will be closed down by 1990. Remaining refineries, meanwhile, are operating at about 70% of capacity because of poor demand for petroleum products, bringing down the European Community's domestic refining capacity to 550 million metric tons a year, officials here said.

The U.S. refining industry has suffered similarly. But Japan's highly protected refiners have been shielded from the impact by keeping imports of cheaper Mideast refined goods out of the country.

Over the next five years, it is estimated that 50 million metric tons a year of refined crude products will swamp the world market, coming out of new refineries built in Saudi Arabia, Kuwait and Libya.

The IEA members have agreed to cooperate in absorbing the shock, but Japan has been holding out, saying that its petroleum refining industry is highly complicated and couldn't be easily opened up to the competitive pressure of cheaper imports from the Mideast.

'Common Approach'

In a communique issued at the end of yesterday's meeting, the IEA ministers said that they had agreed to pursue expeditiously a common approach "whereby they would maintain or create conditions such that imported refined products would go to the markets of the different IEA countries and regions on the basis of supply and demand as determined by market forces without distortions."

The remarks were directed at Japan, some of the ministers said. Western Europe and the U.S. already have agreed to take their share of the oil products. U.S. Energy Secretary Herrington said the Reagan administration has rejected all demands for protectionism from the U.S. refining industry.

The IEA conference president, G.M.V. van Aardenne of the Netherlands, said the IEA will monitor Japan's compliance.

Japan strongly resisted the pressure until the last minute, but yielded when it became clear the other 20 members were unanimous in their view that Tokyo must share the burden. "We have suffered too, but we allowed the adjustments to be made," a European delegate said. "It is only fair they (Japan) should cooperate, otherwise protectionists will carry the day."

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APPENDIX B

THE JOURNAL OF COMMERCE, Wednesday, July 10, 1985

EC Refiners Urged: Cut Capacity

BY EDWIN UNSWORTH

Journal of Commerce Staff

LONDON — The European oil refining industry is still a long way from equilibrium even after massive cuts in capacity over the past decade, industry officials were told.

Officials were told the industry faces a "crucial" phase of adaption to these market conditions.

Frank Schmidt, executive director of Mineralolwirtschaftsverband of West Germany, told delegates to a conference on oil industry developments that the future of the European refining industry hinges in large measure on OPEC marketing strategies.

With OPEC refining capacity forecast to rise from 280 million metric tons (about 2.05 billion barrels) in 1984 to nearly 400 million tons (2.9 billion barrels) in 1990, the way in which these oil producers market their products will significantly affect refiners elsewhere.

"The question facing our national refining industries is, I believe, not whether the producer countries will expand into downstream operations, but in which particular direction," Mr. Schmidt said.

Will they concentrate on building export refineries in their own countries, such as Saudi Arabia is doing, or will they become more active in buying interests in refineries in the consumer countries, he wondered.

Dr. Schmidt called for a European energy policy which makes clear to OPEC nations that maintaining refineries is an essential element of a European energy policy and that imports will be subordinated to this consideration.

In his view, the Europen Community, which has already reduced its refining capacity by more than a third from 844 million tons (6.19 billion barrels) at the end of the 1970s to 585 million tons (4.28 billion barrels) at the start of 1985, must go on reducing capacity by more than 100 million tons (733 million barrels) a year. This will be necessary because even now Europe's refineries are working as much as 70 percent below capacity.

Robert Horton, managing director of British Petroleum, gave the conference his reasons for opposing any further sustained fall in oil prices.

A marked fall in prices would have disastrous effects not only on the revenues of populous oil producers like Mexico, Nigeria or Venezuela but on a very large number of U.S. banks, he said.

There is also a serious risk that a collapse, rather than a small further decline in oil prices, would trigger a major financial crisis, requiring the Federal Reserve to launch a massive life boat.

The aftermath of such a crisis would do more to destabilize international recovery than the benefits from increased spending in oil consuming at about countries would do to aid it, Mr. Horton warned.

APPENDIX C

Summary of Memorandum on the Use of Quotas and Import Fees Under Section 232

A voluntary crude oil import program was instituted in 1955, the objective of which was to maintain domestic crude production. This was converted to a Mandatory Oil Import Program of quotas in 1959. These quotas were increased periodically until 1973, when license fees were instituted on petroleum and refined product imports. In 1974, the program was modified to provide fee-exempt import licenses for new, expanded and reactivated refineries and petrochemical plants.

Supplemental $3 per barrel fees on crude oil and refined products were proposed in early 1975, but were never fully implemented. In 1979, after the Iranian revolution, all import fees were suspended to removed disincentives to import during the shortage. A substitute for import fees, in the form of a "gasoline conservation fee" on imported crude oil, was instituted by the President in 1980. It was held to be illegal, not due to the fee, but due to an overextension of Executive power into an area controlled by Congress. The objective was to reduce overall demand for oil, rather than to provide a disincentive to demand for imported crude oil and gasoline.

These actions were taken under Section 232 of the Trade Expansion Act of 1962 or its predecessors. A succession of presidents took these actions to protect U.S. national security upon the finding of a designated Cabinet officer that national security was threatened. That was the Secretary of the Treasury in 1975 and 1979. Currently, this decision would be made by the Secretary of Commerce. Any such action relating to petroleum and petroleum product imports can be disapproved by a specific form of Joint Resolution reported by the Senate Finance and House Ways and Means Committee, since the actions taken generally fall under the general taxing regulation of international trade authority in the Congress.

In 1973, 1975 and 1979, the actions taken were in the form of import or license fees rather than quotas. The Cabinet Task Force on Oil Import Control in 1970 emphasized that actions directly affecting price as opposed to volume controls could accomplish the objectives with minimum cost and maximum advantage to the economy; with minimum disruption to, and maximum opportunity for, the free play of competitive market forces; and to avoid undue adverse effects on either our balance of payments or our foreign relations. The 1979 case pointed out that the high level of the nation's consumption of gasoline is the single most important cause of our dependence on foreign oil. The Presidential Proclamation also stated that adequate action on crude oil and gasoline imports alone could be taken "with less serious consequences to our economy than if similar action were taken with respect to other petroleum products, such as home heating oil." (See Presidential Proclamation 4744, 45 Fed. Reg. 22864, 1980)

APPENDIX D

AKIN, GUMP, STRAUSS, HAUER & FELD
ATTORNEYS AT LAW
SUITE 400
1333 NEW HAMPSHIRE AVENUE, N.W.
WASHINGTON, D.C. 20036
202 887-4000

MEMORANDUM

TO: Independent Refiners Coalition

RE: Legal Impediments To Obtaining Relief Under The U.S. Antidumping And Countervailing Duty Laws

DATE: May 8, 1985

As reflected in our earlier discussions and analyses, we believe that it would be extremely difficult for the IRC to obtain meaningful relief from imports of cheaply-priced gasoline under the U.S. antidumping and countervailing duty laws. The principal reasons for this conclusion are that: (1) the U.S. unfair trade laws, as presently constructed, do not adequately remedy the injurious effect on U.S. refiners of below-market pricing of crude oil in certain foreign countries and the resultant competitive benefit given to foreign refiners; and (2) the unfair trade laws do not adequately respond to the special case of Non-Market Economy (NME) countries. The general problems associated with crude input pricing and NME nations are discussed below.

I. CRUDE INPUT PRICING

The commercial viability of a refiner is determined largely by the difference between the cost of its crude oil input and the prevailing market price for refined products. When foreign governments transfer their domestic crude oil at a price level which is significantly below the world market price, this causes a severe commercial distortion in the refined products sector, since purchasers of this underpriced crude are encouraged to produce greater volumes of refined products and sell at non-economic price levels. U.S. refiners, who do not have access to this subsidized crude oil, find themselves at a severe competitive disadvantage. This difficulty in their ability to compete does not reflect the relative efficiencies of the U.S. and foreign refining operations, but is due solely to the large gap in the prices of crude oil which U.S. and certain foreign refiners must pay. This distortion, however, is not remediable under current antidumping or countervailing duty laws.

A. Antidumping Issues

Crude oil pricing becomes an issue only when the dumping calculation is based on constructed value as the foreign market value.[1] However, under current Departmental procedures it is unlikely that the Department would calculate a high foreign market value based on constructed value, because the major factor in the cost of gasoline is the cost of crude oil. The price of the crude oil input used in this modified cost of production calculation is likely to be far below the world market price. The result would be a constructed value of gasoline which is below prevailing market prices, thus leading to a finding of no dumping.

Imported gasoline is considered dumped to the extent that its U.S. price is below its foreign market value. Foreign market value is defined as home market prices, third country export prices or constructed value.[2] From the perspective of the

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1/ Constructed value is a modified cost of production calculation. In simple terms, constructed value is the cost of materials, labor and fabrication plus an amount equal to no less than 10 percent of the above for general, selling and administrative expenses plus a minimum of 8 percent of total costs for profits.

2/ Significant import relief cannot be expected if the Department were to perform a home market to U.S. price comparison. The home market prices of equivalent sales would have to be substantially higher in the foreign home markets for any significant dumping margins to be found. Surveys of home market prices in the countries under consideration have revealed gasoline prices in the United States to be, in general, substantially higher than those in the "home markets." This would lead to a finding of no dumping margins. The home market prices are lower in these countries because the prices net of tax are generally government-controlled and held artificially low for various social and economic reasons. Moreover, these lower home market prices also provide further economic incentive to these foreign refiners to produce for export.

Similarly, the chance of obtaining meaningful relief by comparing U.S. prices to prices of equivalent sales in another export market is small. The Department would choose a third country market most similar in volume and product characteristics to the U.S. The large volume, non-U.S. export markets have prices comparable to those in the U.S. The high priced gasoline markets (i.e., South Korea and Finland) are not likely to be chosen as third country markets most similar to the U.S. because of their small volumes relative to U.S. market volumes.

Department of Commerce, constructed value is the least preferred method of defining foreign market value, and will only be used if home market or third country prices are judged unsuitable. The Department generally can only be persuaded to use this approach if nearly all home market and export sales are made at prices below the fully allocated cost of producing gasoline.

The price of crude used in the constructed value calculation is likely to reflect one of the following three commercial situations: (1) the foreign refiner purchases crude in an open, unregulated market at a price approximating the world market price. (This is analogous to many U.S. refiners); (2) the foreign refiner purchases crude in its domestic market at a low, government-controlled price or directly from a state-owned crude producer at below world market prices; (3) the foreign refiner is related to the foreign crude producer and receives its crude at a transfer price which is below the world market price.

In the first case, the price for crude used in calculating that refiner's cost of producing gasoline would be the unregulated market price. Since the refiner's other costs are likely to be quite similar to those experienced by American refiners, the resultant cost of production should be close to the U.S. cost experience. Assuming that this foreign refiner is not substantially more efficient then its U.S. counterpart, it is likely that current home market and third country prices would be below its cost of production. In this case, it's probable that there would be dumping margins found.

However, refiners who are paying world market prices for their crude are not likely to be flooding the U.S. market with below-cost gasoline. We believe that the second and third types of commercial situations predominate in those countries primarily responsible for the recent, rapid rise in refined product imports. In the second situation, where the foreign refiner is purchasing crude in its domestic market at an artificially low price, the Department is likely to use this price in a cost of production calculation as long as it is widely available. This would lead to a calculation of a low-constructed value and a finding of no dumping.

In the third situation where the foreign refiner is related to the foreign crude producer, the crude input would be valued at the cost of recovery of the crude oil. In this case, the result is also a low-constructed value calculation and a finding of no dumping. In our opinion, this is the most common situation in the countries under consideration here.

B. Countervailing Duty Issues

A refiner who receives crude oil at below market prices benefits from a substantial subsidy. However, under current law, such a subsidy is not necessarily countervailable. The Commerce Department is likely to view this as a case concerning "upstream subsidies." Upstream subsidies have been investigated in past cases, all with negative findings. Even in cases where the input's transfer price was well below a world market price, the Department has failed to find countervailable subsidies on the grounds that the low prices were "generally available."[3] Although upstream subsidies were addressed specifically in the Trade and Tariff Act of 1984, we do not believe that the chances of prevailing on this issue have been improved as a result.[4] Indeed, the Act adopted the concept previously utilized in those cases, and has applied an even more stringent initiation standard in recent cases.[5]

In order to establish the existence of upstream subsidies, we would first have to show that producers or sellers of crude are subsidized. Such a showing would entail an exhaustive investigation into financial health, industrial structure and government support of the petroleum industry. While the foreign

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3/ One of the most notable cases was Ammonia from Mexico, which focused on subsidized natural gas. Although the input's transfer price was well below a world market price, the Department failed to find that countervailable subsidies were bestowed to ammonia producers on the ground that natural gas was purchased by a number of industries at the artificially low price. (Final Negative Countervailing Duty Determination Anhydrous and Aqua Ammonia from Mexico, 48 Fed. Reg. 28, 522 (1983).

4/ Under that Act, in order to prevail, it must be shown: (1) that a subsidy on an input has been bestowed by the government; (2) that the subsidy has conveyed a competitive benefit; and (3) that the value of the input is significant to overall production cost.

5/ The Department will initiate an investigation only if there are "reasonable grounds" to believe or suspect that upstream subsidies are being bestowed on a product. In Certain Ethyl Alcohol from Brazil, Investigation No. C-351-501, 50 Fed. Reg. 16727 (April 29, 1985), the Department interpreted that standard to impose a burden on petitioners, first, to quantify the amount of the upstream subsidy, and second, to specify how much of that subsidy is passed through to producers of the subject merchandise.

petroleum industry is often nationalized, government ownership alone is not sufficient to establish subsidization. It is only when governments purchase equity in or heavily lend to troubled companies that countervailable subsidies flow. Foregoing income by selling to nationals at prices below the world market level would normally not be considered evidence of a subsidy. Moreover, the Department believes that government-run enterprises need not be profitable - they need only collect sufficient revenues to offset long-term costs. Thus, establishing that foreign petroleum industries are subsidized would be problematic.

Even if it were possible to prove subsidization of the crude oil sector, it would be necessary to show that refiners receive a commercial benefit from these subsidies. According to the Trade and Tariff Act of 1984, a competitive benefit has been bestowed "when the price for the input product . . . is lower than the price that the manufacturer of the [exported] merchandise . . . would otherwise pay for the product from another seller in an arms-length transaction." The key to establishing commercial benefit is determining whether the transfer price is an arms-length price. If both related and unrelated refiners receive crude at the same price, the Department is likely to find the price to be arms-length. This is true even if the price is held artificially low by government price controls.[6]

Finally, even if we were to demonstrate that crude oil was heavily subsidized, we would need to demonstrate that this subsidy was not generally available. The Department's current policy is that subsidies which are available to a number of industries are not countervailable. In our case, we can make the strong assertion that, since the refining sector is the dominant purchaser of crude oil, upstream subsidies passed to refiners through the low price of crude oil are not likely to be generally available. Therefore, we could argue that they should be countervailable. Still, the Department could disagree on this point and ultimately deny relief.

In summary, the upstream subsidies provision is not likely to provide meaningful relief in this case. The competitive benefit concept was a positive result of the Trade and Tariff Act of 1984, in that it implied a recognition that world market price is the appropriate benchmark for determining what constitutes a subsidy. Nevertheless, this is the second step of the statutory test. The Act mandates an initial showing of the existence of a subsidy on an input. This test erects a barrier that may be insurmountable. Thus, although we may well be able to prove both that the industry is receiving subsidies which are not generally available and that the value of the subsidized crude input is significant, effective relief nonetheless is likely to be blocked.

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[6] This issue currently is under review in the ongoing countervailing duty investigation concerning ethanol from Brazil. If a country which holds the price of its domestic oil at below market prices also resells crude oil at low government-controlled prices, this could be construed as eliminating the commercial benefit.

II. NON-MARKET ECONOMY COUNTRIES

Non-market economy countries are exporting gasoline and other refined products in increasing quantities. Unfortunately, gaining relief from unfairly traded non-market economy products is a cumbersome process which can lead to an uncertain result. Therefore, we believe it is quite uncertain whether meaningful relief could be gained with respect to their imports as described below.

A. Antidumping Issues

Unfairly traded imports from NMEs are judged by a different standard of fair value from those of market economy countries. With respect to antidumping actions, internal prices or costs are considered unsuitable for determining foreign market value because they do not reflect market forces. For this reason, the Department selects a "surrogate" country and uses that country's price or production costs to represent foreign market value. The surrogate selection process is difficult, for a variety of reasons, and can lead to highly unpredictable results. Moreover, most any surrogate would reflect the distortions outlined above.[7] Thus any attempt to gain relief from NME gasoline imports would be problematic at best.

B. Countervailing Duty Issues

The Department has ruled that the countervailing duty law does not apply to merchandise from an NME. The Department has determined in the past that the lack of a market economy has rendered the concept of subsidization meaningless.[8] Therefore, there does not appear to be reasonable relief available to U.S. refiners from non-market economy imports.

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[7] Thus, for example, if Mexico were chosen as a surrogate for Rumania, the distortion caused by below market domestic crude oil input prices would, as noted, result in a low constructed value calculation. Price-to-price comparisons would be equally unlikely to lead to significant import relief, as discussed in Footnote 1 *infra*.

8/ This issue is on appeal in Carbon Steel Wire Rod from Poland and Czechoslovakia, Final Negative Countervailing Duty Determination, 49 Fed. Reg. 19371, 19375 (May 7, 1984). But even if the issue is won on appeal, significant problems remain. Indeed, such a victory might not open a new avenue of relief for the domestic refiners. The gathering of the necessary data on NME subsidies is very difficult at best. Moreover, verification of these data could be a substantial problem, rendering the final outcome unpredictable.

LEAD PHASEDOWN AND PRODUCT IMPORTS

Pace recently completed a study of worldwide refined product supply and demand for the Independent Refiners' Coalition (IRC). That study concentrated on estimating the effects of international trade barriers on U.S. import levels and refining industry operations through 1990. Complete copies of the report can be obtained from the IRC and its conclusions represent the baseline for this update analysis.

Additional work done subsequent to the IRC study indicates that recent regulations by the Environmental Protection Agency (EPA) to phase down the use of lead in gasoline will result in higher potential imports than determined in the IRC study. Prior to July 1, 1985, leaded gasoline could contain a maximum of 1.1 grams lead per gallon. On July 1, 1985, the maximum was reduced to 0.5 gram lead per gallon; this will be further reduced to 0.1 gram lead per gallon on January 1, 1986. Refiners can choose to operate below these maximums and "bank" unused lead rights, which can be sold or used at a later date.

The impact of this rather rapid lead phasedown schedule has been to impose a significant jolt to U.S. refiners' cost of producing gasoline. At these concentrations, the use of lead is by far the cheapest method of increasing the octane of gasoline. With lead use restricted, refiners are forced to use more expensive processing options to produce octane. Roughly, an individual refinery's or the U.S. refining industry's capability to produce unleaded octane can be expressed as "octane barrels." This is the average unleaded octane of the gasoline times the total volume in barrels. A refinery fully utilizing its octane capability must reduce gasoline volume to increase unleaded octane. Octane-barrels must stay relatively constant.

Figure 1 shows the average clear octane of the total U.S. gasoline pool with and without phasedown. Figure 2 shows U.S. demand for octane-barrels with and without lead phasedown. Without phasedown, demand peaks in 1985, while phasedown results in an even higher peak in the same year. In both cases, demand for octane-barrels declines after the peak. This decline results from lower gasoline demand as a result of the increasing efficiency of the car fleet as new, more efficient cars replace older models.

While gasoline demand forecasts vary, it is our perception that most refiners expected gasoline demand to drop after 1985 and anticipated their peak requirement for octane-barrels to occur in the 1985-1986 period. Our work shows that the industry could have met the no-phasedown requirement rather easily and at a competitive world cost. Phasedown resulted in a substantial increase in peak requirement on short notice. While refiners could initiate capital programs to improve their octane-barrel capability, this is not economic. As shown in Figure 2, even with phasedown the demand for octane-barrels is below 1984 levels by 1987. This does not allow sufficient time to install facilities plus earn a return on the investment. Thus, by imposing lead phasedown on short notice, the EPA created a problem for refiners for which they could neither effectively plan nor respond to.

It costs money to produce octane-barrels. Figure 3 shows the marginal cost of an octane-barrel for 1986 at varying lead levels. As shown, the cost to increase one barrel of gasoline by one octane number increases from around 24 cents at 1.1 grams per gallon (leaded grade only) to around 44 cents at 0.1 gram per gallon. Our work shows that the average cost of producing gasoline in the U.S. will increase by about 2.0 cents per gallon as the lead content of leaded gasoline is phased down from 1.1 to 0.1 gram per gallon. This increased cost will start to decline in 1987 as total demand for octane-barrels decreases.

During early July 1985 there was a well-publicized increase in the spread in the price of U.S. gasoline and crude oil. This improvement is a result of unsustainable losses in the industry plus a recognition of the higher cost resulting from phasedown.

These improved margins are, in our opinion, not likely to be sustained. Our work shows that considerable octane capacity exists in Europe and at a price additional exports of unleaded gasoline can be sent to the United States. This relationship is shown in Figure 4. As shown, an improvement in the spread between gasoline and crude oil of from 7 cents per gallon to 12 cents per gallon is sufficient to cover the incremental cost of exporting an additional 400,000 BPD of gasoline to the U.S. from Europe. This spread changes daily and represents potential export profit; in early July 1985 the spread was $0.16. A month later, it was $0.10, fulfilling our prophecy that such margins would not last as imports flooded the market. Our work also showed that the incremental cost of producing gasoline in the U.S. is lower than Europe at 1.1 grams per gallon but higher at 0.1 gram per gallon. It is our opinion that lead phasedown will result in increased imports of gasoline from Europe fluctuating between 200,000 and 400,000 BPD during the 1985 to 1987 period. Canada and Venezuela have similar incremental octane cost advantages and the potential to add another 100,000 BPD of imports in the same period.

The additional gasoline import volume attributed to the short-term, as yet unaddressed octane cost advantage enjoyed by European refiners and those in Canada and Venezuela may average 400,000 BPD. Pace's previous trade barrier impact study for the IRC developed volume profiles for additional U.S. gasoline and distillate fuel oil imports resulting from market distortions which diverted surplus world product to the United States. The combination of these two impacts is illustrated in Figure 5, Case 1A.

While the cost recovery problems associated with lead phaseout are of relatively short duration, 0.5 million BPD to 1.0 million BPD of U.S. refining capacity will be at risk during the 1985-1987 time period. Pace's previous study concluded that should Western Europe and Japanese trade barriers make the U.S. the principal market for new Middle East export refineries, 1.4 million BPD of U.S. refining capacity was at risk between now and 1990. These are essentially independent threats, creating a combined risk of 1.9 to 2.4 million BPD. If these facilities shut down for an extended period, they are unlikely to be available at a later date, due to high recommissioning and restocking expense, equipment deterioration, and scarcity of trained manpower.

FIGURE 1

U.S. AVERAGE CLEAR POOL OCTANE

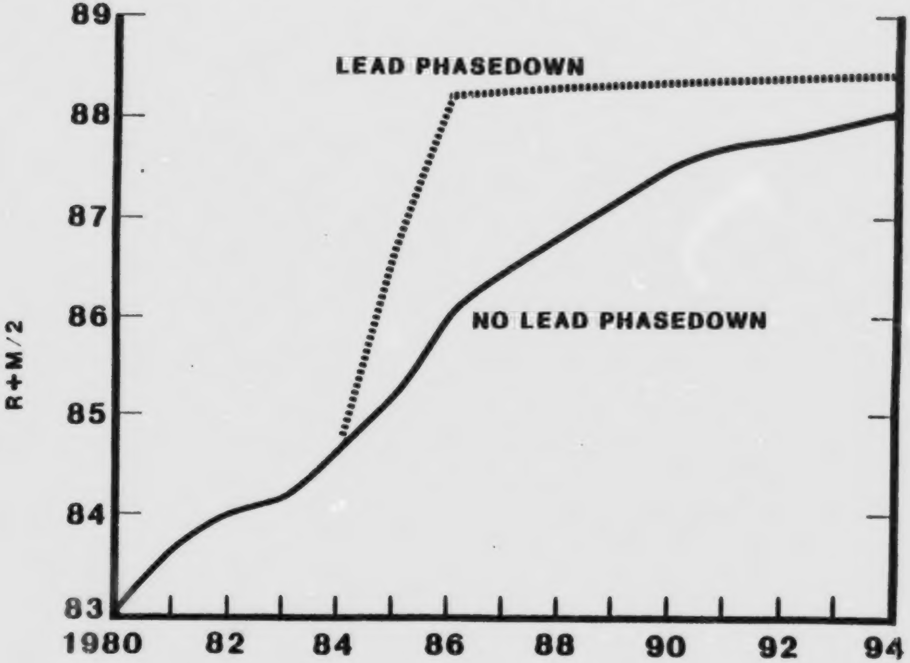

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FIGURE 2

U.S. MOTOR GASOLINE DEMAND

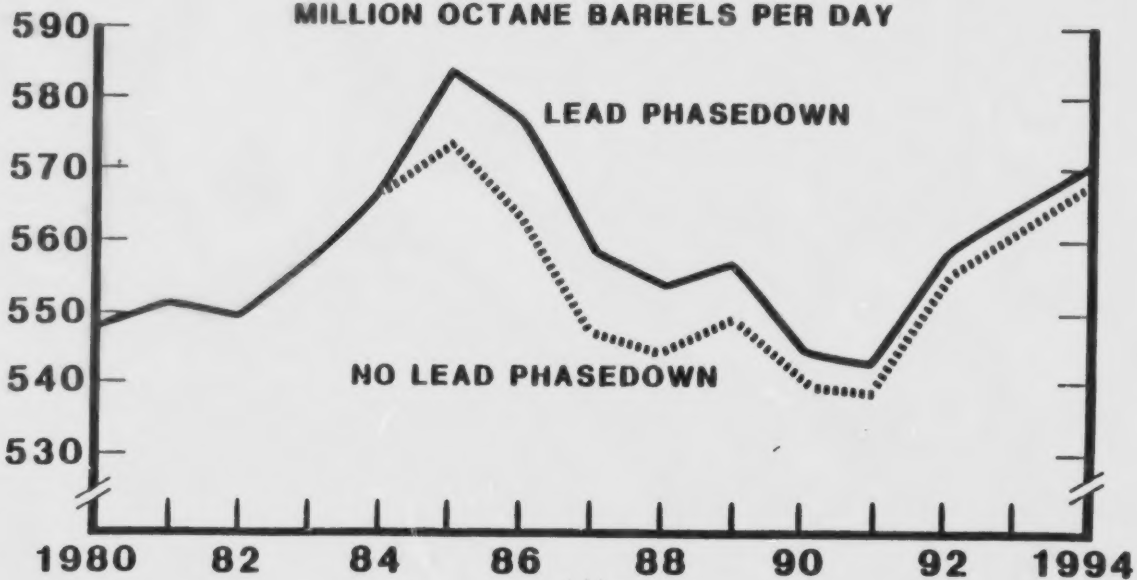


FIGURE 3

INCREMENTAL OCTANE COST

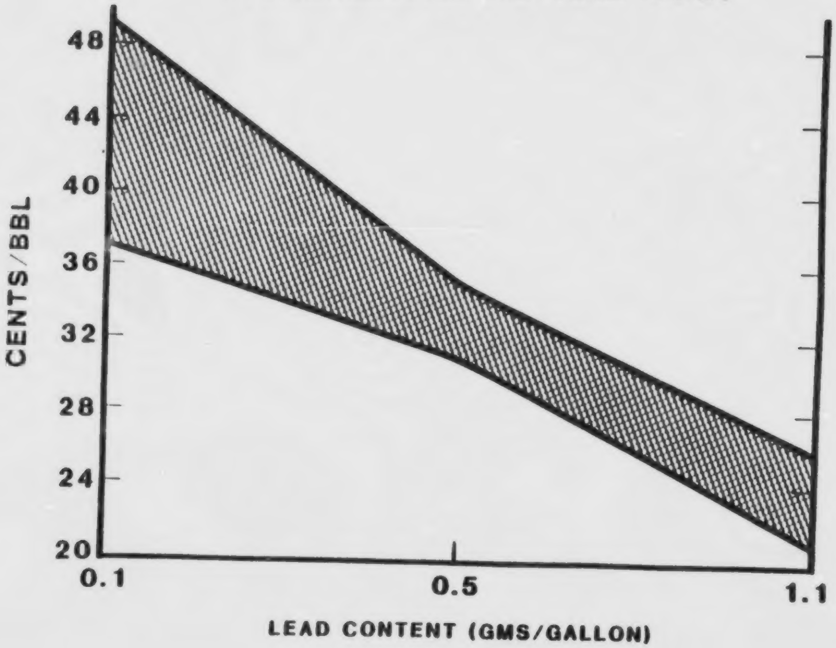


FIGURE 4

EUROPEAN INCREMENTAL GASOLINE EXPORTS

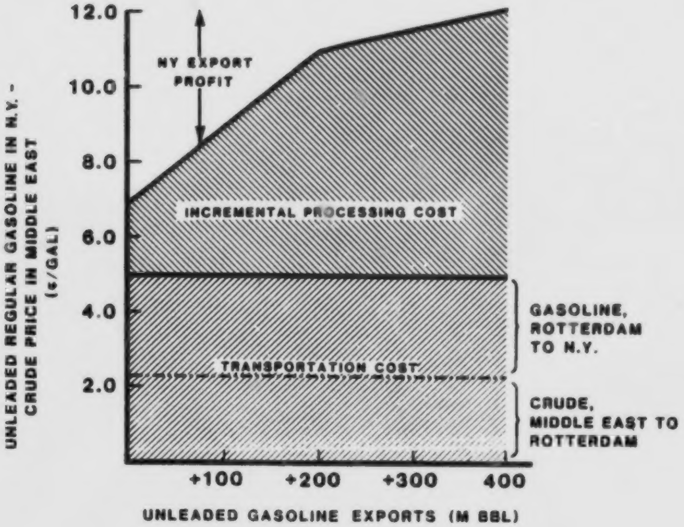
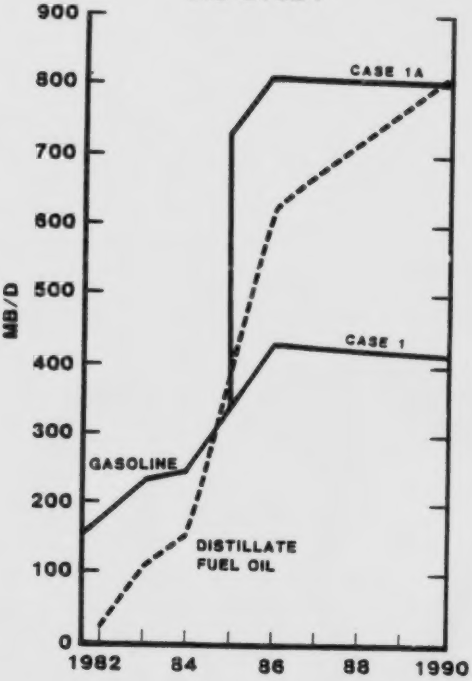


FIGURE 5

U.S. REFINED PRODUCTS ADDED IMPORTS
IRC STUDY



CASE 1A OCTANE ADVANTAGED FOREIGN REFINERS FORCE U.S. REFINERY SHUTDOWN DURING CRITICAL 1985-87 EPA ACCELERATED LEAD PHASE OUT, RETAINING POST-1987 MARKET SHARE

CASE 1 AN AD VALOREM OR ENVIRONMENTAL

Mr. **Sharp**. Thank you very much, Mr. Hemminghaus. We will have questions from our members after we hear from all of the panel. We now welcome Mr. Steuart.

STATEMENT OF LEONARD P. STEUART II

Mr. **Steuart**. Mr. Chairman and members of the committee, I am pleased to be with you today. I welcome the opportunity to testify before your committee on this very important issue.

My name is Leonard Steuart, and I am president of Steuart Petroleum Co., an east coast marketer and importer of refined petroleum products. I am also chairman of an ad hoc coalition of independent marketers opposed to the imposition of barriers to the imports of crude oil and refined petroleum products.

Mr. Bolch will explain the role of the independent marketer and what we believe are the true causes of the problems that face the independent refiners. I will turn immediately to the core of the argument made by the refiner coalition, that domestic refining capacity is now, or soon will be, inadequate to protect national security and, therefore, import restrictions on petroleum products are needed to protect U.S. refiners.

I can say without qualification that there is no evidence to support this proposition and that if national security is threatened in the future by imports of petroleum products, there are far more effective and less costly solutions than import fees or quotas, such as product reserves, which I will discuss in a moment.

Despite refinery closings, the United States has, since 1980, enjoyed substantial excess refinery capacity. Although U.S. refinery capacity throughout the 1970's fell short of the domestic demand for petroleum products, reductions in demand since 1979 have outpaced the elimination of refining capacity. At the start of 1985, the United States maintained operable refining distillation capacity of more than 15.6 million barrels per day, approximately equal to total U.S. demand for refined products and well in excess of security needs.

The unused but operable refinery capacity provides security against any possible disruption of product imports. As the chart to my left illustrates, in every year since 1979, U.S. excess or unused refining capacity has actually exceeded the total level of product imports. At the start of 1985, U.S. refiners maintained excess operable distillation capacity of more than 4.2 million barrels per day. This exceeded total product imports in the first quarter by more than 2.5 million barrels per day.

This is a substantial cushion of excess capacity. It means that even if all petroleum product imports were cut off, which is highly unlikely, the United States has sufficient distillation capacity to refine the entire volume of imported products and still have more than 2.5 million barrels per day of excess capacity remaining. Under these circumstances, it is difficult to understand how U.S. economic or national security is threatened by the drop in refinery capacity that occurred in the early 1980's.

By the way, this conclusion applies whether we use operable capacity or operating capacity as the independent refiners prefer. We have been extremely conservative in our calculation. The total U.S.

capacity to produce refined products includes not only distillation capacity but also natural gas liquids production and refinery gain.

Natural gas liquids production is about 1.6 million barrels per day and refinery gains add another 500,000 barrels per day. When these two elements are included, the total capacity to produce additional petroleum products in an emergency rises to more than 4.5 million barrels per day. This figure does not include available Puerto Rican and Virgin Island capacity.

Thus, even if operating rather than operable capacity figures are used, excess capacity remains well over 3 million barrels more than the entire volume of product imports. This large cushion of excess refining capacity would guarantee effective use of the strategic petroleum reserve in the remote event of a product import supply disruption. If such a disruption occurred, any portion of U.S. product imports could be refined in the unused capacity of domestic or Caribbean refineries.

Despite the substantial volume of excess refining capacity, it should not be the test for effective use of the crude oil SPR. The SPR is currently designed as protection only against an interruption of crude oil imports. Thus, only crude oil is stored.

If imports of products become a threat to national security, the DOE has authority to place petroleum products in storage either directly in the SPR or in a separate regional product reserve. This authority was granted through the EPCA legislation in 1985. Such a product reserve as part of the SPR or separately in the import dependent region is the appropriate response to any security threatening increase in petroleum product imports. It achieves protection directly and at relatively low cost to the economy unlike product fees or quotas that would do so indirectly at great cost to the economy.

The committee should recognize that imports of all products other than gasoline are down and that imports of residual fuel, which is the product most critical to national security, are well below the levels of the 1970's. The chart to my left provides you with a graphic representation of our product import levels over the past 15 years. As you can see, product imports remain a very small portion of total product demand and imports of gasoline—despite the increases since the end of price controls—are not a substantial portion of total demand. The level of gasoline imports penetration has never exceeded 6.5 percent even when blend stocks are included. This can pose no threat to national security.

This should be compared to residual fuel oil which is necessary for electric power generation and industrial boilers, and therefore is far more critical to national security. During the 1960's and 1970's, residual fuel could not be produced in sufficient quantities by U.S. refineries, and import penetration regularly exceeded 50 percent. Gasoline, on the other hand, generally can be produced by higher utilization of existing domestic capacity which has risen to 80 percent this summer for the first time in more than 4 years.

The U.S. refinery contraction is part of a worldwide adjustment. During the 1980's, total operational refining capacity in other countries also declined. Even so, worldwide capacity remains approximately 10 million barrels per day in excess of world demand.

Since 1979, most of the industrial democracies including France, Italy, Germany, and Japan have experienced major cutbacks. This is the expected market reaction to declining demand. Therefore, future additions to refining capacity in such nations as Saudi Arabia should not be viewed in isolation as net additions. Rather this new capacity must be measured against the elimination of substantial uneconomic refinery capability in many producing and consuming nations. In any case, potential additions to capacity from refineries not yet built cannot form the basis for imposition of import restrictions and do not pose any threat to U.S. refiners.

Even if new OPEC capacity is brought on line, it is not likely that U.S. markets will receive the major portion of the refined products unless other nations impose the kind of import barriers being proposed here. This was the conclusion of the recent study conducted for the Department of Energy by the East-West Center and entitled, "The Changing Structure of World Refining Industry." Accordingly, the United States should focus its efforts on preventing other nations from imposing barriers to imports of petroleum products rather than imposing barriers of its own.

This is precisely the course taken by the DOE, and initially it has been successful. At the meeting of the International Energy Agency in Paris on July 9, Japan agreed to move expeditiously to accept its share of refined petroleum products produced by OPEC refineries. We commend Secretary Herrington for the role he played in this action.

Now that this policy has been adopted, the United States should guarantee its implementation by all IEA members including ourselves. If implemented, there is absolutely no basis on which to conclude that most of the Persian Gulf product exports will flow to the United States.

Let's not forget the other side of the coin, the cost to the U.S. economy of import fees. Current conditions in the U.S. petroleum industry are now more a product of market forces than at any time in recent history. Deregulation has allowed the market to determine the appropriate demand level and price for refined products in the United States. As a result, crude oil prices are declining. Refinery margins on gasoline are improving and capacity utilization is rising. The market may not be perfect but it surely works better than Government control.

Import restrictions would be another form of Government control over the now deregulated market. A return to a controlled market would distort market forces and have adverse consequences throughout the U.S. economy. The immediate impact, of course, would be to raise product prices to consumers and consuming industries.

These costs are detailed in our written testimony. The long-term consequences, however, could be even more severe. An increase in petroleum product prices resulting from tariffs and/or quotas would fuel inflationary trends that have only recently moderated. Increased prices would also slow the recent growth enjoyed by the U.S. economy as a whole and further undermine the competitiveness of domestic industries vis-a-vis their foreign counterparts.

Given the already difficult situation facing many U.S. industries, these increased costs would be a severe and possibly fatal blow. All of these general economic ramifications counsel against the imposition of restraints on imports of crude oil or refined products.

Finally, a fee or quota on petroleum imports would be contrary to U.S. foreign policy objectives and ultimately would damage national security. The primary sources of U.S. imports of crude oil and refined petroleum products are allies of the United States and are not Persian Gulf countries. In 1984, for example, our major sources of crude oil and refined products were Brazil, Venezuela, the Netherlands, Mexico, the United Kingdom, China, and Canada.

Saudi gasoline imports, by comparison, were only 30,000 barrels per day.

Maintenance of amicable relations with these countries is important for political, economic and strategic reasons. The alienation of these countries through the unilateral imposition of restraints on imports of crude oil or refined petroleum products could provoke adverse political action as well as retaliatory trade actions against other sectors of our economy. Such provocation would undermine our foreign policy and trade policies and could seriously undermine our national security.

For all of these reasons, Independent Marketers Coalition counsels strongly against protectionist legislation that would impose barriers to petroleum products.

I thank you, sir, for this opportunity to testify.

[Testimony resumes on p. 513.]

[The prepared statement of Mr. P. Steuart follows:]

COALITION OF INDEPENDENT MARKETERS

TESTIMONY OF LEONARD P. STEUART, II

President
Steuart Petroleum Company

before the
UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON FOSSIL AND SYNTHETIC FUELS

Appearing on behalf of

EMPIRE STATE PETROLEUM ASSOCIATION
INDEPENDENT FUEL TERMINAL OPERATORS ASSOCIATION
INDEPENDENT GASOLINE MARKETERS' COUNCIL
NEW ENGLAND FUEL INSTITUTE
SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA

Washington, D.C.
September 10, 1985

My name is Leonard Steuart, I am President of Steuart Petroleum Company, an East Coast marketer and importer of refined petroleum products. I am also the Chairman of an *ad hoc* coalition of independent marketers opposed to the imposition of barriers to imports of crude oil and refined petroleum products. In our view, such barriers would harm competition in the petroleum industry and would hinder economic growth; further, they would not contribute to the health of the petroleum industry nor the preservation of U.S. national security. These import barriers should be rejected by the Congress.

I. INTRODUCTION AND SUMMARY

Our coalition is comprised of the Independent Fuel Terminal Operators Association ("IFTOA"), the Independent Gasoline Marketers Council ("IGMC"), the Society of Independent Gasoline Marketers of America ("SIGMA"), the New England Fuel Institute ("NEFI") and the Empire State Petroleum Association ("ESPA").1/ These associations represent independent retailers and wholesalers of motor gasoline, home heating oil and other refined petroleum products from coast to coast.

The shared interests of the Coalition's members derive from our operational independence. We compete with each other and directly with the wholesale and retail marketing operations of refiners. Indeed, our competitive impact on the

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1/ A description of each of these associations is included as Attachment A.

marketplace has been beneficial in several ways. Independent marketers have introduced novel marketing devices such as self-service, high-volume/low-margin marketing and automated retail marketing. Because of these pioneering marketing concepts, as well as superior systems of cost controls, independent marketers have played a critical role in inducing price competition in the domestic market for refined products. In addition, independent marketers supply most of the product in the outlying and rural areas that are being abandoned by major refiners.

Our lack of crude oil production or processing capacity means that we must secure refined product supplies either from our domestic competitors or from imports. The price at which we can procure refined products is critical; absent the availability of competitively priced products, independent marketers would not survive.

Furthermore, the availability of refined product imports to the U.S. market induces competitive pricing by domestic refiners. For each of these reasons, the American economy benefits.

We recognize that many independent refiners have been experiencing economic difficulties; so, too, have many independent marketers. However, it is our firm conclusion that imports of refined products are not a significant cause of the U.S. refining industry's dislocations, and that imports of gasoline in particular are not restricting refiners' profit margins.

The principal causes of refinery closings in the early 1980's were (1) the uneconomic expansion of refining capacity in the 1970's brought about by (a) mistaken projections of increasing demand and (b) the subsidies provided by federal regulations; and (2) the unresponsiveness, until recently, of crude oil prices to declining petroleum product prices. Indeed, in recent months, the margin between crude oil and gasoline has been widening, despite the relatively higher level of imports; thus, refiners who call for restraints on gasoline imports seek even higher product prices, and insulation from market forces.

Refinery capacity in the United States, although declining, remains well in excess of economic or national security needs. Operable capacity is approximately equal to total product demand, and there is no indication that capacity declines in the near future will be precipitous.2/ Thus, refined product imports at current levels do not pose any threat to U.S. national security, or to the viability of the Strategic Petroleum Reserve ("SPR").

2/ Neither national security nor economic efficiency considerations require operable capacity to equal or exceed total product demand. Indeed, when domestic natural gas liquids production and refinery gain are added to domestic refinery distillation capacity, the total product production capacity in the U.S. exceeds total product demand by more than 2 million barrels per day. This is a very comfortable excess of operable domestic refining capacity.

II. IMPORTS ARE NOT THE CAUSE OF REFINERY CLOSINGS

Clearly some domestic refiners are experiencing economic difficulties; and many refineries have closed in recent years. The source of these difficulties, however, is not the importation of refined petroleum products. Rather, these difficulties are the result of the struggle among refiners to retain market share in a market with lower consumption and often reduced margins between the cost of crude oil and the selling price of petroleum products.

A. Imports of Petroleum Products Have Not Captured a Significant Share of the Market

U.S. imports of refined petroleum products are a very small factor in the domestic market. Import penetration remains slight despite the modest increase in refined products imports in 1984. As shown in Table 1, the sole refined product import category that reflects any meaningful increase is motor gasoline. Imports of distillate fuel oil and residual fuel oil remain well below historic peaks achieved during the 1970's, and residual fuel oil imports actually have declined substantially since 1980. The sole potential cause of complaint is motor gasoline imports.3/

3/ Allegations have been made that much of the imported gasoline is being "dumped" in the U.S. market, or subsidized by the country of origin. There is absolutely no evidence that either practice is taking place. If it is, the affected U.S. industry may bring an action at the International Trade Commission ("ITC") for either anti-dumping margins or countervailing duties. To date, no such actions have been brought.

Despite the increase over historic levels, U.S. imports of motor gasoline have not captured a significant portion of the domestic market. Table 4 sets forth U.S. imports, apparent domestic consumption, and import penetration rates since 1973 for motor gasoline. As indicated, U.S. imports of motor gasoline did not increase substantially until 1983, when they rose from 46.1 to 77.5 million barrels. However, that increase did not result in the capture of a major portion of the U.S. motor gasoline market which exceeds 2.4 billion barrels; import penetration reached only 3.7 percent in 1983, and stood at 4.3 percent in 1984.4/ See Table 4. Even when imports of motor gasoline and blending components used in the production of motor gasoline are combined, import penetration in 1984 reached only 5.7 percent, or 370,000 barrels per day in a market that exceeds 6.6 million barrels per day. See Table 5. More recent data show no trend toward further increases; in fact, imports in the first quarter of 1985 were 8.9 percent lower than in the corresponding period for 1984. See Table 3. In short, U.S. refiners remain in command of the vast bulk of the domestic motor gasoline market.

4/ This should be compared to the import penetration of residual fuel oil in the 1960's and 1970's, when the import percentage of that product regularly exceeded 50 percent of domestic demand, and reached 75 percent in 1972. See Energy Information Administration, Annual Energy Review 1983, Table 37. (April 1984).

B. Refinery Closings are the Result of Declining Petroleum Product Demand and the End of Government Subsidies

In any case, the modest increase in gasoline imports occurred well after the refining industry started to decline from its peak levels of performance and has continued during the recent period of improved refinery performance. Domestic refiners began to experience dislocations as early as 1979, when consumption began to fall. As shown in Table 4, gasoline consumption grew steadily throughout the 1970's to a peak in 1978, after which it declined until 1982 and then rebounded in 1983 and 1984.

Other indicia of economic performance followed closely these declining trends in consumption. As shown in Table 10, for example, prices for regular motor gasoline and No. 2 home heating oil increased steadily until 1981, and then declined in 1982 and 1983. In addition, refiners' net income increased steadily throughout the 1970's, peaked in 1980 and declined dramatically from 1980 to 1982.[5]

The lack of time correlation between the problems of U.S. refiners and the increase in imports of motor gasoline demonstrates that there is no causal link between the two. Imports could not be a significant factor because they remained negligible until well after dislocations began and have not interfered with the more recent improved performance of the refining industry. Accordingly, other factors must be the cause of such dislocations.

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[5] See API, Financial Trends of Leading U.S. Oil Companies, 1968-1983 (October 1984).

We believe that problems experienced by some domestic refiners since 1980 can be attributed almost exclusively to two underlying changes in circumstances: (1) the elimination of government price and allocation controls on crude oil and refined petroleum products in January 1981; and (2) the dramatic decline in demand for motor gasoline. These fundamental changes have: (a) accelerated the elimination from the marketplace of unnecessary and inefficient refining capacity; and (b) stimulated a competitive struggle between domestic refiners for market share.

From the fall of 1974 through the end of 1980, domestic refiners participated in the old oil entitlements and price control programs.6/ The entitlements program extended preferential allocations of crude oil to smaller and generally less efficient refiners. At the same time, government controls on the price of domestically produced crude oil and motor gasoline were established at levels that permitted domestic refiners to enjoy substantial profits. The price control program also provided a disincentive to refined product imports because domestic price levels were generally below world market levels.

6/ See 10 C.F.R. Section 211.67.

The economic distortions and subsidies from these regulations, and the general anticipation of substantial increases in demand, contributed to an unwarranted expansion of U.S. refining capacity. Existing but inefficient refineries were maintained or expanded, while a substantial number of small, comparatively inefficient refineries were constructed.

Since the elimination of these regulatory programs in 1981, U.S. refining capacity has returned to levels attained during the early to mid 1970's. See Table 6. Refinery closings generally reflected management's assessment that operations were no longer economically viable. However, the loss of viability was not the result of import penetration; rather, it reflected the intense competition among efficient domestic refiners to maintain or expand market share in the wake of a decline in demand.

As a result of declining demand, most domestic refiners have been forced to face the reality of either operating at a lower utilization rate or increasing their market share by intense competition to insure continued operations at high levels of utilization. Those refineries unable to adjust have been closed.

C. Independent Refiners Have Been Hurt By the Narrow and Negative Margins Between the Cost of Crude Oil and the Price of Petroleum Products.

The competition for market share has also depressed the price of refined products. Indeed, in many instances this intense competition among integrated oil companies has driven the value of a barrel of finished petroleum products below the level representing the official posted price of crude oil plus necessary transportation and processing costs. At times, refined products, adjusted for transportation and processing, were selling at negative margins. Clearly, this economic inversion was not the result of gasoline imports ranging from 3-5 percent of domestic consumption.

This stark reality has generated different problems for the two distinct classes of domestic refiners. For independent refiners, the cost-price squeeze has generated an actual loss because the price of crude oil purchased from third parties represents a real cost to those refiners. For integrated companies, the situation is quite different. The cost of crude petroleum is merely the transfer price between two arms of the same integrated company. Although total profits may be reduced in a weak market, any losses incurred in refining or marketing can be offset by profits earned at the crude production stage.

During the 1983-84 period, the failure of crude oil prices to respond promptly to the downturn in refined products demand and price resulted in a dangerous cost-price squeeze for independent refiners. This non-responsive relationship between the value of finished petroleum products and the "cost" of crude oil, which cannot be overcome by refining efficiencies, is perhaps the greatest threat to those firms.

However, recent trends indicate that the plight of independent refiners may be alleviated. Crude oil prices have declined considerably in the past year, exhibiting a delayed response to the depressed levels of product demand. Moreover, wholesale motor gasoline prices have been rising steadily since January.7/ As a result, gasoline production is now providing refiners with substantial margins, well in excess of the margins being earned on other petroleum products.8/ A recent analysis by Petroleum Intelligence Weekly concludes that operating profits are now as high $6 per barrel for the modernized cracking units that convert residual fuels to gasoline.9/ These signs clearly demonstrate that without government intervention the market will adjust inevitably to supply/demand realities.

In sum, dislocations in the U.S. refining industry were attributable to a rapid expansion in refining capacity, declining demand for refined products, and the failure of crude petroleum markets to respond promptly to falling refined product prices. However, more recent indications are that refinery margins on gasoline are higher, capacity utilization is rising,10/ and refiner profits are improving.

7/ See EIA Weekly Petroleum Status Report, pp. 18-20, July 5, 1985.

8/ See, e.g., Wall Street Journal, July 12, 1985 at 3.

9/ See Petroleum Intelligence Weekly, p. 1, July 8, 1985.

10/ Capacity utilization exceeded 79 percent in June, its highest level in more than 4 years. See, e.g., EIA, Weekly Petroleum Status Report, p. 4, July 5, 1985.

Accordingly, there is no basis to conclude that imports of refined petroleum products constitute a significant factor in the problems the domestic refining industry has faced. Moreover, there is no reason to believe that broad-based action to protect domestic independent refiners from import competition would significantly enhance their economic position. If imports of finished products are limited, or made uneconomic, all domestic refined product prices would rise, but the price of crude oil would also move higher because much of the pressure for lower crude oil prices would be eliminated. Thus, over time, the relative values of crude oil and finished products would remain fairly constant, only at higher levels for all American consumers.

III. REFINING CAPACITY REMAINS MORE THAN ADEQUATE

A. Substantial Excess Capacity Exists

Despite refinery closings, the U.S. has, since 1980, enjoyed substantial excess refinery capacity. See Table 1. Although U.S. refinery capacity throughout the 1970's fell short of the domestic demand for petroleum products, reductions in demand since that time have outpaced elimination of refining capacity. From 1979 to 1984, reductions in operable refining capacity totalled 1.3 million barrels per day. Yet, during this same period, the decline in product demand exceeded 2.8 million barrels per day. Accordingly, even at the start of 1985, the U.S. maintained operable refining capacity approximately equal to the total demand for refined products. See Table 2. This provided almost 2.5 million barrels per day in excess refinery capacity.11/ See Table 1.

This unused but operable refinery capacity provides additional security against any possible disruption of product imports. In every year since 1979, U.S. excess or unused refining capacity has been far above the level of total product imports. At the start of 1985, the U.S. refining industry was maintaining excess capacity of more than 4.2 million barrels per day; this exceeded total product imports in the first quarter by by more than 2.5 million barrels per day. See Chart 1. Thus, even if all petroleum product imports were cutoff, which is highly unlikely, the U.S. could refine the entire volume of products imported and still have more than .5 million barrels per day of excess refinery capacity. Under these circumstances, it is difficult to understand how U.S. economic or national security is threatened by the drop in refinery capacity that occurred in the early 1980's.

This cushion of excess refining capacity would guarantee effective use of the SPR in the remote event of a product import supply disruption. If such a disruption

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11/ This operable capacity does not include the additional product production capability from natural gas liquids or from refinery gain. When these factors are included, total capacity to produce refined products exceeds total product demand by more than 2 million barrels per day.

occurred, all or any portion of U.S. product imports could be refined in unused capacity of domestic or Caribbean refineries.

But the level of excess refining capacity should not be the test for effective use of the crude oil SPR. The SPR is currently designed as protection against an interruption of crude oil imports; thus, only crude oil is stored. If imports of products threaten national security, the DOE has existing authority to place petroleum products in storage, either directly in the SPR or in a separate Regional Product Reserve.12/ Such a product reserve, as part of the SPR, or separately in the import-dependent region, is the appropriate and authorized response to any potential undue increase in petroleum product imports. It achieves protection directly and at relatively low cost to the economy, unlike product fees or quotas, that do so indirectly at great cost to the economy. See section IV, _infra_.

In addition, imports of residual fuel oil, which is the product most critical to national security, are well below the levels of the 1970's. See Table 3. Residual fuel oil is necessary for electric power generation and industrial boilers; during the 1960's and 1970's, it could not be produced in greater quantities by U.S. refineries and import penetration regularly exceeded 50 percent.13/ Gasoline, on the other hand,

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12/ Energy Policy and Conservation Act, P.L. 94-163, sections 160, 157.

13/ _See_ footnote 3, _supra_.

can be produced by higher utilization of existing domestic capacity; and although capacity to produce unleaded gasoline is limited, much greater amounts of unleaded gasoline could be produced in an emergency simply by relaxing the octane requirements. Therefore, current levels of gasoline imports present no threat to national security and no strategic reserve of gasoline is needed.

B. OPEC Refined Products Will Not Flood the U.S. Market

During the early 1980's, total-operational refining capacity in other countries also declined, although worldwide capacity remains approximately 10 million barrels in excess of world demand. Since 1979, most of the industrial democracies, including France, Italy, Germany and Japan have experienced major cut-backs. Worldwide, we believe that the reductions in capacity from 1980-1985 exceed the additions in both producing and consuming nations. Therefore, future additions to refining capacity in such nations as Saudi Arabia should not be viewed in isolation as net additions; rather, this new capacity must be measured against the elimination of substantial uneconomic refinery capability in many producing and consuming nations.

The potential additions to capacity from refineries not yet built cannot form the basis for imposition of import restrictions and do not pose any immediate threat to U.S. refiners. It is speculative to predict (1) how much additional capacity will be built in OPEC nations, (2) when such capacity could be brought on line, and (3) what portion of the refined products will be exported to the U.S. If history is any guide, much of the planned increases in refinery capacity will never be constructed; and much of that which is constructed may only replace capacity that has been destroyed in the Iran/Iraq war or that will be eliminated in Europe or elsewhere.

Even if new OPEC capacity is brought on line, it is not likely that U.S. markets will receive the major portion of the products refined. A recent study conducted for the Department of Energy by the East-West Center, "The Changing Structure of World Refining Industry: Implications for U.S. Energy Security," concludes that "the U.S. market is not the most economical market for [Persian] Gulf exporters," and that large product exports to the U.S. will occur only if other consuming nations place barriers on product imports. See p. 53. Accordingly, the U.S. should focus its efforts on preventing other nations from imposing barriers to imports of petroleum products, rather than imposing barriers of its own.

Recent reports indicate this is precisely the course taken by the DOE, and that it has been successful. At the meeting of the International Energy Agency ("IEA") in Paris on July 9, Japan agreed to accept its share of refined petroleum products produced by OPEC refineries. The IEA communique specifically stated that all members, including Japan, "would maintain or create conditions such that imported refined products could go to the markets of the different IEA countries and regions on the basis of supply and demand as determined by market forces without distortions." Now that this policy has been adopted, the U.S. should guarantee its implementation by all IEA members, including ourselves. If implemented, there is absolutely no basis on which to conclude that most of the Persian Gulf product exports will flow to U.S. markets.[14]

IV. ADVERSE CONSEQUENCES OF RESTRICTIONS ON REFINED PRODUCT IMPORTS

The imposition of tariffs and/or quotas on U.S. imports of crude oil or refined petroleum products would have severe adverse consequences on competition in the petroleum industry, on the domestic economy as a whole, and on U.S. foreign policy.

As set forth above, current conditions in the U.S. petroleum industry may be more a product of market forces than at any time in recent history. Deregulation has allowed the market to determine the appropriate demand level and price for refined products in the United States.

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[14] The Coalition of Independent Refiners ("IRC") recently issued a study by the Pace Company on "The Effect of Increasing Petroleum Product Imports on the United States Refining Industry," June, 1985. This study assumes as its principal premises "as outlined by the IRC: Japan will not allow any imports of gasoline; imports of refined products into Western Europe from outside continental Europe will not be permitted to exceed 7 percent of total demand for refined products." p. 1. These assumptions are now clearly erroneous, and the conclusions of the study should be disregarded.

Import restrictions would be another form of control over the now deregulated market. A return to a controlled market would distort market forces and have adverse consequences throughout the U.S. economy. The immediate impact, of course, would be to raise product prices for consumers and consuming industries. The long-term consequences, however, could be even more severe.

As we have indicated, the unrestricted availability of imports is the principal competitive tool of the independent marketer, who has neither crude oil production nor refining capability. Product import restrictions, whether volumetric or monetary, impose substantial barriers to the ability of any independent marketer to compete with refiners. In many areas, these barriers could drive the independent marketer out of the market entirely.

Without availability of imported product, marketers must rely entirely on domestic refiners, whose economic interest is to increase the wholesale price of refined products and who, by merger, are disappearing. Even worse, in many instances it is in the interest of domestic refiners to reduce or eliminate sales to independent marketers. It should be noted that in the spring of 1973 -- before the Arab Oil Embargo -- the availability of imported petroleum products dropped sharply; as a result, the supplies available to independent marketers were sharply restricted by domestic refiners. This led the Federal Government to impose the voluntary petroleum allocation program in May, 1973 and the Senate to pass the Emergency Petroleum Allocation Act in June, 1973. Based upon the bitter experience of the past, we are certain that product import restrictions will encourage refiners to curtail sales to independent marketers, making it far more difficult for us to secure economically priced products; this will be followed by strong pressures for a new mandatory allocation program.

Import quotas or tariffs will also unquestionably harm the national economy, because of the pervasive use of petroleum products by all sectors of commerce and industry. Petroleum products represent one of the largest elements of the Consumer Price Index.[15] Accordingly, a ten percent increase in the cost of petroleum products (approximately $3 per barrel) would produce an inflationary surge through the entire economy as well as a considerable increase in unemployment. The steady-state effect of a ten percent increase in the price of petroleum products would increase the GNP deflator by about 0.5 percent, decrease real GNP by approximately 0.5-0.7 percent, and increase unemployment by about 0.2 percent. Clearly, a substantial increase in the price of petroleum imports will promptly raise the price of all domestic petroleum products, all competing energy sources, and indeed, all goods and services.

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[15] Energy prices directly represent approximately 11.5 percent of the Consumer Price Index, and account for 32 percent of the producer price index for crude materials, 15 percent of the producer price index for semi-finished goods, and 12 percent of the producer price index for finished goods.

Studies of the economic impact of tariffs or fees on imports of crude petroleum illustrate the macroeconomic effect of tariffs and/or quotas on imports of refined petroleum products. An analysis performed by the Petroleum Industry Research Foundation16/ in April 1982 projected that an import fee of $5.00 per barrel would generate an increased cost of $29 billion to oil consumers in its first full year, as well as an increase in the inflation rate of approximately 1.3 percentage points. Similarly, an April 1982 study by the Congressional Budget Office17/ estimated that a $5.00 per barrel tariff would increase the Consumer Price Index by between 0.8 and 1.0 percent, the unemployment rate by 0.1 to 0.2 percent (between 100,000 and 200,000 persons), and reduce constant dollar GNP by between 0.5 and 0.7 percent. Although the Congressional Budget Office believed that these effects would diminish after time, the impact clearly would be significant.

An increase in petroleum product prices resulting from tariffs and/or quotas therefore, would fuel inflationary trends that have only recently moderated. Moreover, increased

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16/ Petroleum Industry Research Foundation, Inc.: The Oil Import Fee Issue, April 1982.

17/ CBO, Oil Import Tariffs: Alternative Scenarios and Their Effects, Staff Working Paper (April 1982).

prices could slow the recent growth enjoyed by the U.S. economy as a whole and further undermine the competitiveness of domestic industries vis-a-vis their foreign counterparts. If petroleum prices continue to fall, tariffs or fees will prevent the economic benefits that would naturally result. All of these general economic ramifications counsel against the imposition of restraints on imports of crude oil or refined products.

Finally, a fee or quota on petroleum product imports would be contrary to U.S. foreign policy objectives, and ultimately would damage national security. The primary sources of U.S. imports of crude oil and refined petroleum products are allies of the United States. In 1984, for example, our major sources of crude oil and refined products imports were Brazil, Venezuela, the Netherlands, Mexico, the United Kingdom, China and Canada. These countries are U.S. allies, or are located in regions critical to U.S. national security. Excluding Venezuela, only 0.8 percent of all U.S. product imports in 1984 were of OPEC origin. Maintenance of amicable relations with these countries is important for political, economic and strategic reasons. The alienation of these countries through the unilateral imposition of restraints on imports of crude oil or refined petroleum products could provoke adverse political action as well as retaliatory trade actions against other sectors of our economy, such as agriculture. Such provocation would undermine our foreign policy and trade policies, and could seriously undermine our national security.

V. CONCLUSION

The imposition of tariffs and/or quotas on imports of crude oil or refined petroleum products is neither warranted nor wise. Import restraints would not address the principal cause of the dislocations that have been experienced by the domestic refining industry. Restraints are not justified by economic or security considerations, yet restraints would have consequences threatening competition in the petroleum industry, as well as U.S. national security and economic growth. If product imports threaten national security in the future, establishment of an appropriate product reserve as a part of the SPR would be the appropriate response. For these reasons, the Coalition of Independent Marketers urges the rejection of protectionist legislation that would impose barriers to petroleum imports.

Thank you very much.

ATTACHMENT A

COALITION OF INDEPENDENT MARKETERS

The Empire State Petroleum Association represents the independent gasoline distributors and home heating oil marketers of New York State.

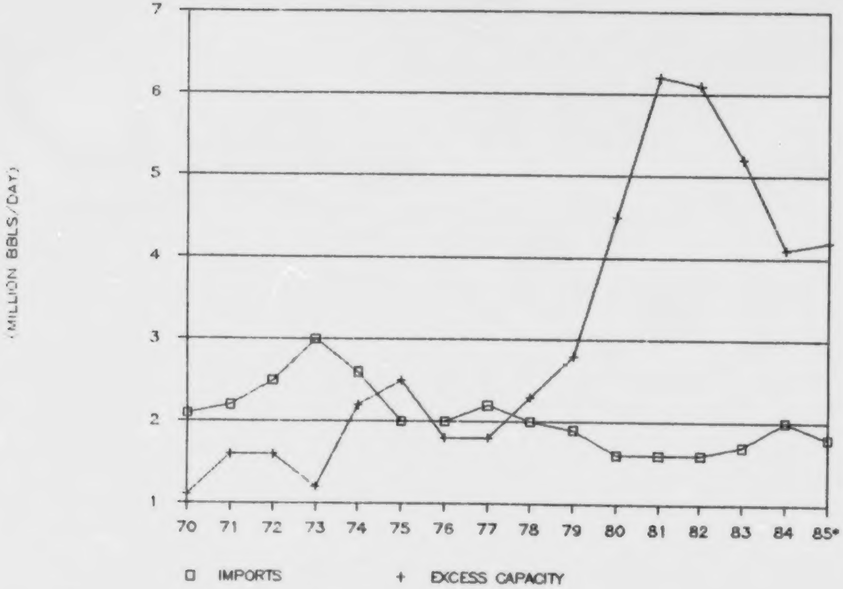
The Independent Fuel Terminal Operators Association is comprised of 16 companies which own and control terminals capable of receiving ocean-going tankers. None is affiliated with a major integrated oil company. Members of the Association are independent marketers of No. 2 fuel oil, No. 6 fuel oil, gasoline and other petroleum products.

The Independent Gasoline Marketers' Council is a trade association of non-branded independent retailers of motor gasoline. Council members operate groups of retail stations under their own brand name and operate in 45 of the 50 states.

The New England Fuel Institute is an association of 1,132 independent retail and wholesale home heating oil distributors throughout the six New England states.

The Society of Independent Gasoline Marketers of America is a trade association comprised of approximately 250 independent marketers and private brand chain retailers of motor fuels. SIGMA members operate in 49 of the 50 states through over 15,000 retail outlets and their sales represent between 10 and 15 percent of total retail sales of motor fuels in the United States.

CHART 1

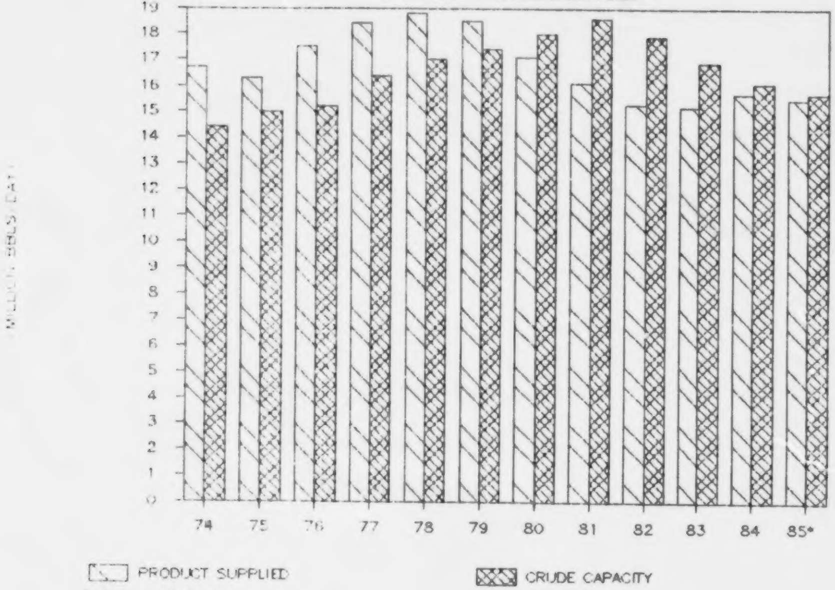


* 1st Quarter 1985.

Source: See Table 1

CHART 2

US REFINERY CAPACITY &
PETROLEUM PRODUCTS SUPPLIED



* 1st half 1985.

Source: See Table 2

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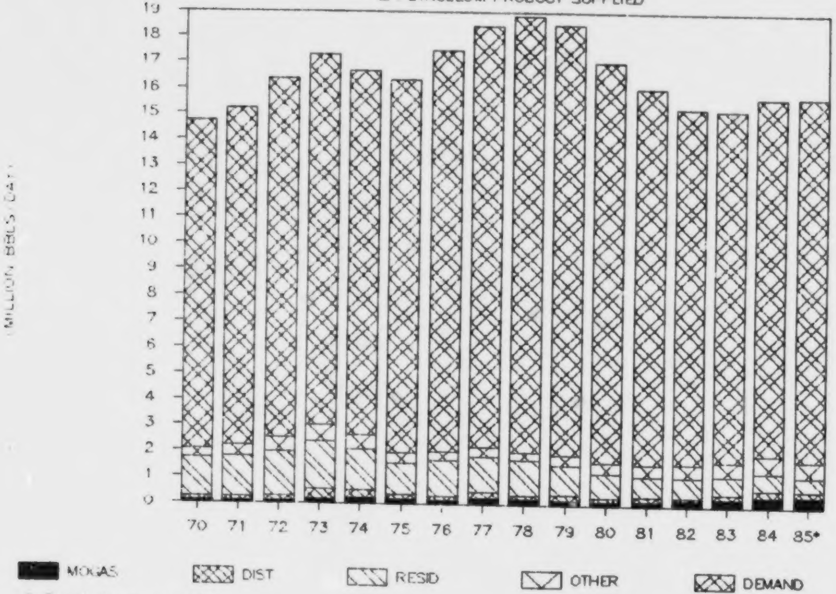
CHART 3

US IMPORTS–PETRO PRODUCTS

& PETROLEUM PRODUCT SUPPLIED



* First Quarter 1985.

TABLE 1

U.S. Excess Refining Capacity, and Petroleum Products Imports
(1,000 barrels per day)

	Petroleum Products Imports	Excess Refining Capacity 1/
1970	2,095	1,151
1971	2,245	1,660
1972	2,532	1,596
1973	3,012	1,240
1974	2,635	2,229
1975	1,951	2,519
1976	2,026	1,821
1977	2,193	1,796
1978	2,008	2,308
1979	1,937	2,793
1980	1,646	4,507
1981	1,599	6,151
1982	1,625	6,116
1983	1,722	5,174
1984	2,011	4,082
1985 1st Qtr.	1,784 2/	4,242

1/ Excess Capacity = Operable Capacity - Crude Runs (Table 1a).

2/ 1st Quarter 1985 import data includes a preliminary figure for March.

Note: Capacity data as of January 1.

Source: American Petroleum Institute, Basic Petroleum Data Book, Volume V, Number 2 (May, 1985) and Petroleum Supply Monthly (April, 1985).

TABLE 1A

Excess Refining Capacity
(1,000 barrels per day)

	Operable * Capacity	-	Crude Refinery Runs	=	Excess Capacity
1970	12,021		10,870		1,151
1971	12,860		11,200		1,660
1972	13,292		11,696		1,596
1973	13,671		12,431		1,240
1974	14,362		12,133		2,229
1975	14,961		12,442		2,519
1976	15,237		13,416		1,821
1977	16,398		14,602		1,796
1978	17,047		14,739		2,308
1979	17,441		14,648		2,793
1980	17,988		13,481		4,507
1981	18,621		12,470		6,151
1982	17,890		11,774		6,116
1983	16,859		11,685		5,174
1984	16,137		12,055		4,082
1985 1st Qtr.	15,659		11,417		4,242

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* Includes operating capacity plus operable shutdown capacity; capacity data as of January 1.

Source: American Petroleum Institute, Basic Petroleum Data Book, Volume V, Number 2 (May, 1985); Petroleum Supply Annual, 1984 (June 1985) and Petroleum Supply Monthly, January 1985 - March 1985.

TABLE 2

U.S. Refinery Capacity and Total Petroleum Products Supplied
(1,000 barrels per day)

	Petroleum Products Supplied	Crude Oil Distillation Capacity *
1974	16,652	14,362
1975	16,332	14,961
1976	17,461	15,237
1977	18,431	16,398
1978	18,847	17,047
1979	18,516	17,441
1980	17,056	17,988
1981	16,058	18,621
1982	15,296	17,890
1983	15,231	16,859
1984	15,726	16,137
1985 1st half	15,501	15,659

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* Includes operating capacity plus operable shutdown capacity; capacity data as of January 1.

Source: American Petroleum Institute, Basic Petroleum Data Book, Volume V, Number 2 (May, 1985); U.S. Dep't of Energy, Energy Information Administration; Petroleum Supply Annual, 1984 (June 1985) and Petroleum Supply Monthly, January 1985 - March, 1985; Weekly Petroleum Status Report (July 5, 1985).

TABLE 3

U.S. Imports of Motor Gasoline, Distillate Fuel Oil and Residual Fuel Oil and Total Petroleum Product Supplied, 1970 - 1984

(1,000 barrels per day)

Year	Motor * Gasoline	Distillate Fuel Oil	Residual Fuel Oil	Total Imports of Petroleum Products	Total Petroleum Products Supplied
1970	67	147	1,528	2,095	14,697
1971	59	153	1,583	2,245	15,213
1972	68	182	1,742	2,525	16,367
1973	134	392	1,853	3,012	17,308
1974	204	289	1,587	2,635	16,652
1975	184	155	1,223	1,951	16,322
1976	131	146	1,413	2,026	17,461
1977	217	250	1,359	2,193	18,431
1978	190	173	1,355	2,008	18,847
1979	181	193	1,151	1,937	18,516
1980	140	142	939	1,646	17,056
1981	181	173	800	1,599	16,058
1982	239	93	776	1,625	15,296
1983	294	174	699	1,722	15,231
1984	382	272	681	2,011	15,726
1985 1st Qtr.	418	192	566	1,763	15,739

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* Includes blending components.

Source: U.S. Dep't of Energy, Energy Information Administration, Annual Energy Review (1933); Petroleum Supply Monthly (March, 1985); American Petroleum Institute, Basic Petroleum Data Book, Volume V, Number 2 (May 1985).

TABLE 4

Finished Motor Gasoline
U.S. Production, Consumption, and Import Penetration
(1,000 barrels per day)

	Total Production	Imports	Stock Withdrawal	Exports	Apparent U.S. 3/ Consumption	Import Penetration Ratio
1979 Average	6,852	181 1/	2 1/	0	7,035	2.6%
1980 Average	6,506	140 1/	-66 1/	1	6,579	2.1%
1981 Average	6,405	157	28 2/	2	6,588	2.4%
1982 Average	6,338	197	25	20	6,540	3.0%
1983 Average	6,340	247	45 2/	10	6,622	3.7%
1984 Average	6,466	291	-54	6	6,698	4.3%
1985 1st Quarter	5,943	341	213	2	6,495	5.3%

1/ Includes motor gasoline blending components; no breakout available.

2/ In January 1981 and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations.

3/ Totals may not equal sum of components due to independent rounding.

Source: U.S. Department of Energy, Energy Information Administration, Petroleum Supply Monthly (March 1985)

TABLE 5

Finished Motor Gasoline and Motor Gasoline Blending Components 1/
U.S. Production, Consumption and Import Penetration
(1,000 barrels per day)

Year	Total Production	Imports	Stock Withdrawal	Refinery Inputs 3/	Exports	Apparent U.S. 4/ 5/ Consumption	Import Penetration Ratio
1979	6,852	181	2	NA	0	7,035	2.6%
1980	6,[illegible]	140	-66	NA	1	6,579	2.1%
1981	6,405	181	28 2/	156	2	6,456	2.8%
1982	6,338	239	49	172	20	6,434	3.7%
1983	6,340	294	58 2/	134	10	6,548	4.5%
1984	6,453	382	-57	115	6	6,657	5.7%
1985 1st Qtr.	5,943	418	260	197	2	6,422	6.5%

1/ Motor gasoline blending components as reported by DOE.

2/ In January 1981 and 1983, numerous respondents were added to surveys affecting stocks reported and stock withdrawal calculations.

3/ Refinery input of motor gasoline blending components equal refinery input minus refinery output; Refinery inputs of finished motor gasoline are reported by DOE on a net basis under refinery production.

4/ Totals may not equal sum of components due to independent rounding.

5/ Beginning in 1981, apparent consumption is probably understated, and consequently ratios overstated, due to negative product supplied balances of motor gasoline blending components. According to DOE, negative balances may occur for a number of reasons. A primary cause for blending components is that they have entered the primary supply channels with their production net having been reported.

Source: U.S. Dep't of Energy, Energy Information Administration, Petroleum Supply Annual, 1984 (June 1985) and Petroleum Supply Monthly, January 1985 - March 1985.

N.A. = Not available.

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TABLE 6

U.S. Crude Petroleum Refining Capacity, Refinery Runs, and Capacity Utilization 1973-1984

(1,000 barrels per day)

Year	Capacity 1/	Refinery Runs	Utilization
1973	13,671	12,431	90.9%
1974	14,362	12,133	84.5
1975	14,961	12,442	83.2
1976	15,237	13,416	88.0
1977	16,398	14,602	89.0
1978	17,047	14,739	86.5
1979	17,441	14,648	84.0
1980	17,988	13,481	75.0
1981	18,621	12,470	67.0
1982	17,890	11,774	65.8
1983	16,859	11,685	69.3
1984	16,137	12,055	74.7
1985			
1st Qtr. 2/			74.2
2nd Qtr. 2/			77.6

1/ Capacity as of January 1; Includes operating capacity plus operable shutdown capacity.

2/ Utilization calculations based on DOE/EIA, Weekly Petroleum Status Report (July 5, 1985).

Source: American Petroleum Institute, Basic Petroleum Data Book, Vol. V, No. 2 (May 1985); U.S. Dep't of Energy, Energy Information Administration, Petroleum Supply Annual, 1984 and Petroleum Supply Monthly, January 1985 - March 1985.

TABLE 7

U.S. Refineries, 1973-1984

Year	Operating	Shutdown 1/	Total
1973	253	28	281
1974	257	27	284
1975	262	28	290
1976	265	22	287
1977	273	18	291
1978	290	12	302
1979	301	10	311
1980	311	8	319
1981	315	9	324
1982	254	47	301
1983	233	25	258
1984	214	33	247

1/ Prior to 1980, included refineries capable of operation and inoperable facilities needing extensive reconditioning. From 1980 to 1984, included only operable shutdown.

Source: American Petroleum Institute, Basic Petroleum Data Book, Vol. V, No. 1 (Jan. 1985).

TABLE 8

U.S. Crude Oil Imports 1/
1973 - 1984
(1,000 barrels per day)

1973	3,244
1974	3,477
1975	4,105
1976	5,287
1977	6,615
1978	6,356
1979	6,519
1980	5,263
1981	4,396
1982	3,488
1983	3,329
1984	3,402
1985 (1st Qtr.)	2,545

1/ Includes crude oil for storage in the Strategic Petroleum Reserve.

Source: U.S. Dep't of Energy, Energy Information Administration, Petroleum Supply Monthly (March 1985).

TABLE 9

U.S. Imports of Gasoline, By Country, 1980-1984
(in barrels)

Country of Exportation	1980	1981	1982	1983	1984
Brazil	----	----	3,868,192	7,590,276	12,553,873
Canada	3,436,964	3,779,825	3,536,791	7,536,968	9,409,936
Indonesia	1,810,598	68,643 *	----	----	----
Italy	1,152,870	3,112,822	1,643,324	3,070,897	6,556,372
Netherlands	590,823	6,092,091	11,374,829	15,380,505	14,699,948
Neth. Antilles	1,007,673	2,689,661	3,571,413	4,974,005	3,672,629
PRC	2,558,675	6,766,684	9,558,862	10,371,483	10,453,208
Trinidad	5,388,588	3,257,604	3,129,886	2,155,750	697,464
Venezuela	----	----	1,388,306	11,667,668	22,416,610
Other	2,778,967	6,717,978	8,025,209	14,743,422	20,599,659
TOTAL	18,725,158	32,485,308	46,096,812	77,490,974	101,059,699

* Foreign Trade Zone non-privileged status.

Source: U.S. Dep't. of Commerce, Bureau of the Census.

TABLE 10

Comparison of U.S. Refiner Crude Petroleum Acquisition Cost and Refined Products Prices, 1973-1983

(in U.S. $)

Year	Refiner Acquisition Cost 1/		Refined Products Prices 2/	
	Domestic	Imported	Regular Gasoline 3/	No. 2 Heating Oil 4/
1973	$ 4.17	$ 4.08	$ .3882	$ .2275
1974	7.18	12.52	.5241	.3601
1975	8.39	13.93	.5722	.3898
1976	8.84	13.48	.5947	.4180
1977	9.55	14.53	.6307	.4737
1978	10.61	14.57	.6571	.5080 est.
1979	14.27	21.67	.8779	.7280
1980	24.23	33.89	1.2172	1.0097
1981	34.33	37.05	1.3110	1.2466
1982	31.22	33.55	1.2220	1.2086
1983	28.87	29.30	1.1570	1.1012

1/ Expressed in U.S. dollars per barrel.

2/ Expressed in U.S. dollars per gallon.

3/ Service Station price, including taxes.

4/ Including taxes, price for 1978 estimated.

Source: American Petroleum Institute, Basic Petroleum Data Book, Vo. V, No. 1 (Jan. 1985) (compiled from various sources).

Mr. SHARP. Thank you very much, Mr. Steuart. We will now welcome Mr. William K. Tell.

STATEMENT OF WILLIAM K. TELL, JR.

Mr. TELL. Thank you very much, Mr. Chairman. My name is William Tell. I am a senior vice president of Texaco.

I appreciate the opportunity to appear before this committee this morning.

I think that no matter how you look at this problem whether you perceive it as a trade issue, as an energy policy issue, as a national security preparedness issue, it is a matter that is of direct concern and indeed responsibility of this committee and I want to compliment the committee for holding these hearings because in our judgment as an international company there are policy questions here that this country deserves to have resolved and resolved promptly.

Texaco has accepted the invitation to participate in this hearing and indeed hearings that have been held in the past several months because we felt that this issue deserved to be seen in a context of something larger than the competing self interests of some of the domestic segments of the energy industry.

As an international company, we have 10 refineries in the United States. We would rank second or third as a domestic refiner, right around a million barrels per day. Our refineries are in excellent shape. We have spent several billions of dollars since 1980 making sure that they are world class refineries.

We have closed five plants in the United States since 1980 and we have other facilities in one of our large refineries that is presently in a shutdown condition.

Of our present capacity of 900,000 barrels per day, we are running pretty close to 90 percent of that. We are not here seeking protection. We are a competitive company and we are going to be a successful company through this period.

We have interests in over 30 refineries outside the United States. We have more capacity outside the United States than within the United States and it may be that if the United States determines as a matter of policy that it is indifferent to the erosion of its domestic refining base, that our shareholders may economically indeed perhaps gain some advantage from that in the intermediate term.

But as a U.S. company and as a company that has some very painful memories of the 1970's we feel that there should be a conscious policy judgment by this Government as to what is the minimum domestic refining base that our country needs because that base is coming down and that is the issue.

We can have a blizzard of numbers and we can have selective snapshots taken in time with respect to import levels and earning and all the rest of it. Nothing moves in a straight line in this business. It is a very competitive worldwide market.

But if you look at the fundamentals, the fundamentals are not changing. There is a surplus of crude and refining capacity for the moment in the world and that surplus is looking for a market.

In the fact of that surplus, there is another 2 million barrels per day of new refining capacity coming on line and the studies indicate that if the United States is not disposed to shift existing policy, we should anticipate within the next two to 2½ years another million barrels per day of our U.S. domestic refining base will be gone.

I think that that should not happen as a matter of drift or indifference. We should decide whether we feel that as a country we have enough operable refining capacity that we can afford to give up another million barrels per day.

As a businessman, I will make my plans accordingly. If we don't care about the next million barrels per day, if we think that the short-term price benefits are the overriding policy consideration, let's say so and let's get on about our business.

But when it comes to be accountability time if there should be another supply disruption, then we will have a policy and I certainly hope that in those circumstances we are not going to hear the voices that we heard in 1970 coming back to the industry, "Why didn't you warn us?"

I am here today to say that I think that the red lights are flashing. Now what is the capacity in the supply demand balance?

The EIA numbers would say that it is about 15.7 million barrels per day of operable refining capacity. That has been referred to in the statements of other witnesses.

The demand in the United States is close to 16 million barrels per day.

If you look at the amount of that operable capacity that is shut down and idle, you are going to see 1.7 million of that 15.7 that is in that idle category.

Now 700,000 of the idle capacity exists in plants that have not been operating.

In our experience and judgment, it would be very unlikely that that capacity could make a contribution at all in any period of supply disruption.

There is another 600,000 barrels per day of idle capacity within the fences of operating refineries. Within a period of time I think some part of that capacity could come back up but I would be very doubtful if it could make much of a contribution in the first 4 to 6 weeks of a major supply disruption.

So that says that if we really do find as we found on two occasions in the 1970's we have a disruption, we have about 14.4 million barrels per day that can run and we have a domestic demand of 16 million. That is normal demand. If that supply disruption is a result of some military mobilization which it was not in the 1970's, you are looking at incremental demands over and above normal civilian demand of 16 million.

Witnesses from the Department of Defense I believe in your hearings, Mr. Chairman, earlier have indicated that their incremental demand could be as much as 1½ million barrels per day.

If you look at the experience of World War II and Korea when we had to mobilize to support the military, we saw increases in normal civilian demand of as much as 15 percent as you had plants going on around-the-clock basis and commuters working three shifts instead of one and the incremental civilian demand on top of the military.

Then you have the normal human reaction to a perceived shortage and this is what we saw in the 1970's. You have countries who are relying upon the area that has been disrupted scrambling to find replacement supplies. Certainly that was true when Iran went off the line. You had the French and the Japanese scrambling to find alternative sources and putting tremendous upward pressure on spot prices.

You have companies scrambling to build inventory because of two reasons. One, they don't know the duration of the shortage. They have customers and markets they want to protect. They also know that during a period of shortage that the price is going up and whatever it costs today, it is going to cost more next week. There is another increment of short-term demand that you can count on.

Then you have civilians who are out topping their tanks, a tremendous surge on the whole system of inventories, all compressed into a very short period of time.

Unless we have the capability to cover that increment of surge demand, we stand a very great risk of repeating the experience of the 1970's.

Economic shocks, I don't believe the full extent is known today on what the U.S. economy paid in terms of inflation and lost productivity, unemployment from those economic shocks of the 1970's.

Now we have created a SPR which hopefully can cushion some of that but if the domestic refining capacity or in other places is not available to process whatever crude we can command through reliance on the market, it really doesn't count for a lot.

So there are a lot of numbers. There are complex judgments to be made. There are difficult tradeoffs and choices but just because it is difficult, I don't think it means that we can kind of hope that it will go away because the main impact of the new export refining capacity will be in the years 1986 and 1987.

I sense from some discussions that I have had with members of government that one of the problems here is that if we acknowledge that it is a legitimate problem today, then we have to face up to the solution and the solutions are not politically attractive. I would acknowledge that.

I think that this country deserves to have the policy question answered. What is the minimum domestic refining base that is consistent with our energy and national security and given the projections for further erosion, how far are we from that minimum base?

Until you answer the threshold question, it is very difficult to determine what remedy if any is required. I make no call today for quotas or tariffs or other forms of protectionism. I am only appealing to this committee and to officials in the U.S. Government to face up to this problem.

There is a dangerous complacency in this country today. Somehow we are never going to have a shortage again. I think you and I know that it probably is not whether but when and that our policy planning has to be based upon something more than a business-as-usual scenario.

Again, I express my appreciation to the committee for the opportunity to express our views. I certainly look forward to responding to any questions you may have.

[Testimony resumes on p. 548.]
[The prepared statement of Mr. Tell follows:]

STATEMENT OF TEXACO INC.

Texaco appreciates the opportunity to provide its comments to the Subcommittee and to review a number of serious national policy issues presented by the sharp increase in petroleum product imports into the United States combined with the accelerating decline in U.S. domestic refining capacity. The growing dependence by the U.S. on petroleum product imports raises concern in the areas of trade and economic policy, energy policy and national security. This Subcommittee's responsibility with respect to energy policy makes these hearings timely and appropriate.

SIGNIFICANT TRENDS

Volumetric Growth in Product Imports

In 1984 gasoline imports into the U.S. averaged over 317,000 barrels per day (BPD), an increase of 40% over 1983. This increased to 426,000 BPD in the first half of 1985, an increase of 32% over the 322,000 BPD level in the first half of 1984. Middle distillate imports, such as diesel fuel, heating oil and jet fuel, averaged 261,000 BPD in 1984, an increase of 75% over 1983 levels. During the first half of 1985, middle distillate imports averaged 185 MBPD, slightly below 1984 levels for the same period which reflected the effects of an abnormally cold winter which not only increased demand but caused severe transportation and processing problems. These amounts are much greater when partially refined product imports such as naphtha, blending stocks and unfinished oils are included. Chart 1, 2 and 3 further detail the increasing trend in U.S. petroleum product imports.

Gasoline imports in the 1960's and 1970's supplied 1 to 2% of U.S. demand but by the end of 1984 have risen to almost 8% of total U.S. demand when blending stocks used in marketing gasoline are included. Analysis of current trends indicates a continued upward movement in product import dependence in 1985 and beyond. Gasoline imports are primarily directed at the U.S. East Coast where they now approach 15% of demand when imported blending stocks are included. In 1984, imports supplied 15% of all regional light product demand in PADD I (U.S. East Coast States).

Shifting Source and Type of Product Imports

An increasing percentage of petroleum imports come from long-haul sources as compared to the traditional Caribbean short-haul sources of the 1970's. Fifty percent of the gasoline and the identified gasoline blending stocks imported in 1984 came from Brazil, China, Romania, the UAE and Western Europe. The additional imports forecast over the next two years from OPEC export refineries will significantly increase the United States' dependence on long-haul sources. These supplies will be much more vulnerable to military and possible terrorist disruption than the short-haul product imports on which the U.S. relied in the 1970's. Time/distance considerations could also be significant during a period of international supply disruption. Shipping time from the Caribbean is a few days compared to 45 days from the Persian Gulf.

In 1972, the U.S. imported 1,742,000 BPD of residual fuel oil representing 69% of total product imports. This amount had declined to 674,000 BPD in 1984 and represented only 34% of total product imports. Residual fuel oil, principally consumed by electric utilities and large industrial users, can be substituted readily with coal or natural gas in the event of curtailment. In contrast, today's product imports are predominantly the lighter transportation fuels which are not capable of substitution by other domestic energy sources. A supply disruption in light product imports would have a much greater impact on economic and national security considerations than was the case with residual fuel oil in the 1970's.

In 1975, only 4% of U.S. light product imports were supplied by government-owned refineries. By 1984, the amount had risen to 36%. Forecast deliveries from new export refineries into the U.S. over the next two or three years could increase import dependence on foreign government-owned export refineries to as much as 70%. Governments have a much broader agenda than private commercial firms in establishing price levels and exercising available leverage during a period of tight supplies. Foreign governments can also be expected to weigh political considerations with respect to supplying products to U.S. military forces in the event of any East-West confrontation. During the 1973-74 Arab embargo, offshore refineries supplying U.S. military forces were primarily owned by U.S. companies. This is becoming increasingly less the case.

In 1978, the major international oil companies imported 25% of the total light products and unfinished oils imported into the U.S. Domestic refiners and traders, marketers and blenders imported 60% and 15% of these products respectively. In 1984, the major international oil companies imported only 8% of the total of these products brought into the U.S. and the domestic refiners' share had dropped to a level of 41%. Traders, marketers and blenders imported 490,000 BPD of total light products and unfinished oils into the U.S. in 1984 representing 51% of total light product imports. Whether this newly dominant type of importer will have the capability of arranging for alternative sources of supply in the event of an international disruption remains undemonstrated.

Domestic Refiner Margin Squeeze

The increasing flood of product imports has exerted significant downward pressure on refiner margins in the U.S. In today's highly competitive marketplace, it is the price of the last barrel seeking to enter the market which can determine the overall level of prices. The depressed level of U. S. refining and marketing margins of major U. S. oil companies, is set forth in Chart 8. These margins would be further reduced if the "recapture" windfall tax on old investment contained in the President's tax reform proposal is adopted.

There is increasing evidence that foreign export refiners seeking access to U.S. markets and the displacement of domestic refined products are offering to sell gasoline, middle distillates and heavy fuel oil at prices sharply below any reasonable estimate of refinery costs. This cost/price relationship is set forth on Charts 4 and 5. Since January 1, 1985, cost absorption of over $4 per barrel by government-owned export refiners appears to be occurring, representing as much as 11¢ per gallon. In an attempt to compete against foreign competition, which analysis indicates is engaged in sales below cost, domestic refineries are experiencing depressed margins and large losses in widespread instances.

Decreasing U.S. Refining Capacity

Competitive market conditions since decontrol in 1981 have led to an extensive rationalization and contraction of the U.S. refining industry. In 1981, there were 315 operating refineries in the U.S. with a total capacity of 18.6 MMBPD. By the beginning of 1985, the U.S. had less than 200 operating refineries with slightly under 15.4 MMBPD of operable capacity, according to the Energy Information Agency.

Some reduction in U.S. refining capacity has been required to remove the inefficient facilities constructed during the period of Government controls in the 1970's which artificially stimulated demand and encouraged the construction of small inefficient refineries. Today, however, the U.S. is rapidly approaching the point where future plant closings will involve modern, efficient facilities which simply cannot competitively survive against below-cost, subsidized sales by foreign government export refiners seeking access to U.S. markets. Measured by its yield of light products, it is the most efficient refining industry in the world. The future configuration of the U.S. domestic refining industry over the next several years however, may well be largely determined by the policies of foreign governments.

Various categories of refining capacity are reported from time to time. The most relevant is "operable" refining capacity which includes those units which are actively processing crude oil, together with idled refining capacity which can be operating within 90 days. The best estimate of current U.S. "operable" refining capacity is approximately 15 MMBPD. Included within this amount, however, is approximately 600,000 BPD which is currently idle and, with additional passage of time, may be beyond recommissioning. Accordingly, U.S.

refineries currently are capable of average daily runs of approximately 14.4 MMBPD as compared to average daily peacetime demand of almost 16 MMBPD including natural gas liquids (NGL's).

Recent studies have indicated that as much as 1 MMBPD of existing "operable" refining capacity may be at risk during the next two to three years as a result of competition from product imports from the new OPEC export refineries. Therefore, a judgment must be made as to whether U.S. energy security and national security would be adequately protected if U.S. "operable" refining capacity were to drop to a level of about 14.0 MMBPD with as much as 600 MBPD of such capacity "idle" and not available to help cover any sudden short-term increase in demand.

During the first 4-6 weeks of a major military supply disruption it is estimated that as much as 2-3 MMBPD of incremental product demand will be generated by additional military requirements and incremental civilian demand associated with domestic mobilization activity in support of the defense build up. This was the experience in World War II and Korea. This additional demand does not include any short-term surge created by the fear of shortage which led to massive tank topping and attempts to build inventory during the 1973-74 and 1979 disruptions.

Idle operable refining capacity in most instances would require 30 days or more for maintenance and "de-mothballing" before a return to running. Therefore, it is of limited value in dealing with the short term supply/price problems which a disruption creates. Absent the capability to deal with a sudden surge in demand of this nature a significant upward movement in price levels could occur. This would create strong pressure for government intervention through price and allocation controls which past experience has shown would be counterproductive in re-establishing supply/demand equilibrium. The Strategic Petroleum Reserve (SPR) was created to help deal with this type of problem. Yet without adequate refining capacity to process crude supplies which are available during a period of disruption, the benefits of the SPR will be lost.

During a military disruption, the U.S. could be confronted with a short-term surge demand of as much as 18-19 MMBPD to be satisfied from 14.4 MMBPD of current operating refining capacity plus 1.7 MMBPD of NGL's. The balance would have to be covered by increased product imports which, if not available, could subject the U.S. economy to even greater shocks than those experienced during the supply disruptions in the 1970's.

Construction of New OPEC Export Refining Capacity

In the face of significant excess refining capacity today in major consuming countries, an estimated 2.25 MMBPD of new refining capacity is nevertheless under construction in several OPEC countries with 900 MBPD already on stream. This represents a 41% increase in total OPEC refining capacity between 1984 and 1987. The new OPEC refineries, which can be expected to operate at 85-90% of capacity, will provide OPEC with a total of 1.8 million BPD of light products for exports, compared to 1 million BPD in 1984. The location of these export refineries in the Middle East and North Africa, as shown on Chart 6, are in areas which were the source of crude supply disruptions in the 1970's. With the closure of several major refineries in the Caribbean in the last few months and activation of six or more new export refineries in the Persian Gulf, U.S. imports of oil products from the Persian Gulf will sharply rise. This can already be seen from the dramatic 600% increase in the volume of U.S. gasoline imports from Saudi Arabia from 1984 to 1st half 1985. A list of the leading countries currently exporting petroleum products into the U.S. is shown on Chart 7.

Other exporters of product to the U.S. in recent years include Romania and China. In addition, the USSR exports large volumes of petroleum products into Europe creating surplus product which, by displacement, often moves to the U.S. Dependence on these areas as an important source of energy supply for the U.S. and Europe can create additional foreign policy and defense costs.

Potential Impact on U.S. Refiners

Two recent studies by respected petroleum industry economists and consultants have concluded that 1 MMBPD of current U.S. operating refinery capacity is at risk in the face of increased imports from these new export refiners. This new export capacity is expected to be fully operative by the end of 1987 and its full impact on the U.S. oil market will be felt over the next two years as little growth in petroleum demand is expected during this period in either the internal demand of the OPEC Countries or in external world markets. U.S. capacity, already weakened by the poor refinery economics of recent years and the upcoming lead phasedown requirement, will be especially in jeopardy during this period. The U.S. has already lost over 3 MMBPD of operable refining capacity since 1981. Can an additional 1 MMBPD be lost without compromising vital U.S. interests?

Impact of Environmental Investments

During the last ten years, the domestic refining industry has expended over $30 billion for environmental facilities to meet mandated product specifications and to control plant emissions. Additional Superfund taxes and other hazardous substance regulations which are pending will significantly increase the environmental costs of U.S. refineries. A study by Batelle Columbus Laboratories indicates that U.S. refiners incur mandated environmental costs of as much as $1.50 per barrel over foreign export refineries.

Our own U.S. Government is currently providing incentive subsidies favoring petroleum product imports. EPA has granted lead banking credits worth as much as 4.5¢ per gallon to importers of low lead gasoline. EPA recognized that many domestic refiners currently lack the equipment to produce lead-free, higher-octane fuels in accord with its January 1, 1986, lead phasedown timetable. Therefore, it adopted lead banking credits for products sold with lead levels below current standards to afford domestic refiners additional time and flexibility to install the necessary equipment to meet the stringent new standard. Most product importers, however, are brokers, blenders, and middlemen not engaged in refining yet are receiving a windfall from the banking provisions of up to 4.5¢ per gallon. This indirect subsidy permits them to put even greater pressure in the market place on the already depressed margin and cash flow of the domestic refiner--a result contrary to the stated objectives of EPA's lead banking program. This is one more example of the failure of the U.S. Government to have a clearly defined view and policy as to what the national interest requires with respect to the domestic refining industry.

Mothballing Refining Equipment

Our review of the protection and start-up of idle petroleum refining equipment indicates a significant amount of maintenance and testing is required when an idle plant is restarted. Even with adequate mothballing, internal and external corrosion will be experienced. This corrosion damage and cost to repair increases significantly with time. Other problems which will be encountered when restarting an idle refinery concern recruiting and training a workforce, developing contracts, purchasing catalyst and chemicals and obtaining elapsed environmental permits. This will all be time consuming. It is estimated that it will take a minimum of four months to restart a refinery idle one year to as much as eight months when idle in excess of two years, excluding any delays resulting from permits, availability of utilities and delivery of critical catalyst and chemicals. Mothballed facilities would provide little assistance in dealing with the type of supply disruption experienced in 1973-74 and 1979.

Trade Laws and Procedures Require Revision

The prospect of increased access to U.S. markets by foreign product exporters is further enhanced by comparatively low import duties and the absence of quotas or other restraints. U.S. petroleum product import duties on gasoline are only 1.25¢ per gallon and were set in 1947 when the wholesale price of gasoline was approximately 10¢ per gallon. These duties have never been increased to reflect price increases and other changed economic relationships since the mid-1940's. Such duty levels could be increased 7-10 times solely on the basis of changed economic and market conditions since the time they were first imposed. U.S. import duties on petrochemicals average 8 to 10 times higher than petroleum products at present. Product import duties in Europe are as much as four times higher than those in the United States. France has adopted restrictive import quotas on petroleum products. Price controls on certain petroleum products in Italy also tend to discourage imports. The European Communities have recently imposed tariffs on methanol and certain chemicals from developing countries. Japan does not allow imports of foreign refined gasoline and certain distillates. Current U.S. policy is much more liberal than other major consuming countries with respect to import of refined products.

Even the Administration of the existing U.S. tariff structure has created severe inequities and competitive distortions. The U.S. Customs Service has only recently begun to take steps to ensure a more uniform application of petroleum products tariffs and to close loopholes which presently allow certain petroleum products to enter at rates well below those which the Congress intended. However, there still exist discrepancies and inequities in the tariff schedules concerning duties for imports of some petroleum products. The U.S. International Trade Commission (ITC) in its April 1985 report on the tariff classification of catalytic naptha and other motor fuel blendstocks recommended the creation of a "motor fuel blendstock" category dutied at the motor gasoline rate with end-use certification. We believe the ITC's recommendations are appropriate solutions to correct some of the loopholes and anomalies in the tariff schedules and they should be implemented.

The growing use of two-tiered pricing arrangements and other below cost pricing structures by resource rich countries unfairly subsidizes their domestic producers by providing them natural resource inputs at below market rates. In this regard, last year the House took a significant step to strengthen and improve the remedies available to U.S. industry against injurious unfair foreign trade practices by approving the Trade Remedies and Reform Act of 1984 (H.R. 4784). Unfortunately, provisions in the bill dealing with natural resource subsidies were deleted prior to final passage. It is urgent that Congress promptly enact trade legislation to provide meaningful remedies against these practices. Insistence that trade be fair as well as free is consistent with long-standing principles and is in no way a protectionist policy.

The natural resource subsidy provisions and principles contained in H.R. 4784 have been incorporated and reintroduced by Congressmen Gibbons and Moore in H.R. 2451 and H.R. 2345, respectively. Texaco believes legislation of this nature is urgently needed.

PROMPT NATIONAL POLICY REVIEW REQUIRED

Confronted with 1) mounting losses, 2) increased environmental investments and taxes, 3) the possible loss of the capital investment incentives provided under current tax laws, 4) imposition of a "recapture" windfall tax on old investment and 5) continued competition from sales below cost, U.S. refiners will continue to shut down facilities. There may exist an apparent surplus of operable domestic refining capacity as compared to current average daily runs of approximately 12 MMBPD. It is not at all clear, however, that maintenance of these idle units included in the classification of "operable" capacity has been adequate to permit a rapid increase in crude running in the event of a supply disruption. Moreover, some surplus in refining capacity is required to compensate for the periods when units must be shut down for testing and inspection. Historically, operating at 90% of capacity is about the optimum the industry can hope to achieve. In addition, as much as 3 MMBPD of capacity will be required to run be required to run crude oil from the SPR in the event of a supply disruption. When these factors are taken into consideration the existing cushion of surplus refining capacity in the U.S. is not very large and may already have reached the level where any further reductions would be contrary to the national interest.

Foreign refineries during a period of worldwide crude disruption may not have crude supplies above their domestic requirements to provide a basis for refining products for export. Moreover the prices demanded for such products will undoubtedly reflect the escalated levels which experience in the 1970's indicates will occur following a supply disruption. The question of how much excess U.S. refining capacity the U.S. requires is complex and not at all clear. What is clear, however, is that once a plant or major unit has been shut down for any extended period of time, it is most unlikely that the equipment would be in a condition to resume full operations in any short period.

There is a strong indication that, absent a shift in national policy, the U.S. will continue to drift into a growing and excessive dependence on foreign product imports. The painful U.S. experience with excessive dependence on foreign imports in the 1970's dictates that a policy review should be immediately undertaken by responsible officials to determine at what level increased crude and product imports cease to be prudent from the standpoint of economic policy, energy policy and national security. The short-term consumer benefits available from product sales below cost will be more than offset by the longer-term price increases which will occur from excessive import dependence in the event of a future supply disruption or the reestablishment by OPEC of a seller's market. How much longer can existing levels of domestic refining capacity be maintained under the severe margin squeeze and mounting losses resulting from competitive prices apparently based on sales below cost?

A determination of the minimum required level of domestic refining capacity initially turns on U.S. policy objectives with respect to the percentage of normal domestic demand desired to be covered in the event of a supply disruption. The 1973-74 and 1979 cutoffs of petroleum imports to the U.S. resulted in economic and political shocks which, as a matter of policy, the country may desire to avoid or significantly minimize in the future. The strong conservation measures adopted since 1979, however, make the demand constraint opportunities available without injury to the economy much less than in prior period. The creation of the SPR is a reflection of these policy considerations and the U.S. without question must maintain sufficient domestic refining capacity to utilize maximum SPR withdrawals.

A number of issues should be included in the policy review. Key areas of the economy will be adversely affected if increasing levels of petroleum imports lead to the reestablishment of a seller's cartel or are cut-off by a supply disruption. These include GNP growth, employment, inflation, interest rates, balance of payments and federal budget deficits. Given the U.S. experience with energy shocks in the recent past, it would seem extremely shortsighted to promote complacency with respect to current trends. A recent study by Professors Boskin and Sweeney of Stanford University illustrates the effects of a 1988 petroleum disruption--real GNP down 2.2%, inflation and unemployment both up by a percentage point and a federal deficit increase of $12 billion. To accept the risks of the devastating economic impacts of another energy crisis in return for the temporary benefits of subsidized prices is clearly unwise.

The policy review should also include an evaluation of current U.S. trade policy in the energy sector together with an appraisal of the practicality of existing enforcement mechanisms to deal with a natural resource subsidy form of unfair trade practice. U.S. Customs procedures relating to the administration and interpretation of existing duties on finished products and blendstocks should also be reviewed. Wide discrepancies and inequities still exist and as previously described. Consideration should also be given to the justification and utility of maintaining a SPR at an annual cost in excess of $4 billion if adequate refining capacity is not available to process crude from the SPR during a period of supply disruption.

Finally, there is the area of national security. Whether an imminent national security concern is created at present levels of crude and product imports is a matter upon which differing views have been expressed. In addition to covering adequately domestic demand, there remains the policy question of what refining capacity above the level to satisfy the approximately 16 MMBPD of civilian demand will be required to meet incremental military needs in time of emergency. Dr. Fred C. Iklé, Under Secretary of Defense for Policy, testified in Senate Committee hearings on June 21, 1985 that DOD's average daily consumption of approximately 500,000 BPD "could increase as much as three or four times during an emergency period." He explained that "During the early stages of an emergency requiring mobilization of military forces, our petroleum consumption would increase quickly." A major military mobilization could also increase normal civilian demand as much as 2 MMBPD, as factories operate on a round-the-clock basis to meet the military's needs. Moreover, many of the refineries operated by U.S. companies outside the U.S. which were suppliers to DOD in prior years have more recently been closed or sold to foreign governments. These developments place a greater dependence on our domestic refining base.

A related policy consideration is the extent to which Europe's refined product requirements might have to be supplemented from U.S. sources in the event of military action in Europe. Approximately 50 percent of Europe's light petroleum product imports come from USSR and Eastern bloc nations and, therefore, create a vulnerability to political or military considerations.

Those expressing complacency at current levels should be queried as to what point in the future, on the basis of existing trends, our dependence on foreign imports would reach a point where a genuine national security concern exists. What is the criteria policymakers should employ in making such a judgment and what industry operational lead times must be accommodated for any remedial action to be timely implemented?

The timing and form of any remedial measures required to protect U.S. interests in this vital area should be determined by the judgments made in the comprehensive policy referred to above in formulating U.S. policy in these key areas. If analysis indicates the current level of domestic refining capacity should not be permitted to further erode, strong action at an early date would be required.

A listing of some of the more critical issues and questions Texaco believes should be addressed is set forth below. Responsibility for the analysis and resolution of these economic, trade, energy policy and national security issues appears to lie in many different departments, agencies, and committees in both the Executive and Legislative branches of the U.S. Government. Leadership and coordination will be required to ensure that such divided responsibility does not result in the failure of any party to accept responsibility for these difficult and complex matters which vitally affect the national interest.

In the past there has been a tendency to deal with politically difficult problems of this nature only in a crisis. Unfortunately, our Country's inability to address and resolve such problems in advance of a crisis cost the U.S. economy in the 1970's billions of dollars in addition to a loss of policy flexibility and significant additional costs in the areas of both foreign policy and defense.

In the absence of any indication of a policy shift by the U.S. Government, it is reasonable to anticipate that privately owned U.S. refiners will continue the established pattern of plant closings required by the severe margin squeeze and mounting downstream losses. During the 1970's the petroleum industry was widely criticized for failing to warn the public that the U.S. was losing its energy self-sufficiency and the risks associated with a growing import dependence. Texaco believes that current trends and developments in the energy sector contain the potential for a future shortage which could compromise our economic and national security to a greater extent than in the 1970's. We compliment this Subcommittee for holding these hearings to focus public attention on these critical issues. There is urgent need for the policy analysis studies currently underway within the Administration to be promptly concluded in order to permit timely informed judgments to be made.

POLICY ISSUES AND QUESTIONS TO BE ADDRESSED

I. Energy Policy/National Security

1. What is the minimum level of domestic refining capacity required to protect against future economic shocks from the reestablishment of an effective sellers' cartel and insure our national security in the event of a supply disruption?

2. Does an analysis of present trends in petroleum product imports and refinery closures indicate the U.S. may be approaching such minimum level? What are the industry operational lead times that must be taken into consideration in adopting remedial policy?

3. Should the configuration of the U.S. refinery industry be determined by the self-interest policies of foreign governments?

4. What amount of excess refining capacity in the U.S. is required to obtain optimum benefits from the $15 billion investment in the SPR?

5. As a matter of energy policy, is the U.S. satisfied with current levels of domestic drilling and reserve additions? Is there a relationship between depressed refinery margins and the prices paid to U.S. producers for U.S. crude oil? Is reduced cash flow to domestic oil and gas producers a major reason for the dramatic decline in U.S. exploration?

6. What are the odds that at some point in the next 10 years there will be another major energy supply disruption? Is a complacency over current product import trends consistent with this assessment?

7. What incremental demand for petroleum products will occur in the event of a major military deployment, i.e., military requirements, tank-topping by consumers fearing shortages, and additional domestic industrial activity required to support military operations?

8. How reliable as suppliers of petroleum products are Romania, Russia (into Europe and by displacement into the U.S.), Libya and China?

9. How reliable as product suppliers would Canada, Mexico, Venezuela and other Western Hemisphere countries be in the event of a major supply disruption which threatened their domestic requirements? Would the price levels of their products be expected to escalate in the event of a supply disruption?

10. What are the additional military costs associated with insuring U.S. access to foreign crude supply, including the cost of keeping the sea lanes open and protecting against tanker attacks? When these military costs are added to the market price of imported products, are such products less costly to U.S. consumer than domestic products?

11. What limits on the flexibility and substance in U.S. foreign policy are created by excessive dependence on foreign energy sources?

II. Trade Policy

1. As a matter of national policy, should we expect our domestic refinery industry to compete against sales of imported products by producer governments which evidence strongly indicates are below cost? Are there any other major U.S. industries which national policy would place in such a position to obtain short-term consumer benefits?

2. Would below cost sales by foreign competitors differ from the practice of predatory prices outlawed by the U.S. antitrust laws?

3. What is the justification for the level of U.S. import tariffs on gasoline and other petroleum product not being revised since 1947 to reflect current economic relationships?

4. What is the justification for the average import duty level on petrochemicals being at least 8 to 10 times higher than petroleum products?

5. What is the justification for European import tariff levels on petroleum products from many sources being as much as four times higher than the U.S.?

6. Why should the U.S. have a completely open door for petroleum product imports when Japan drastically limits the levels of foreign refined products permitted access to its domestic market?

7. Are existing trade laws and procedures adequate to deal with the new phenomenon of below cost sales of petroleum products to gain access to U.S. market?

III. Economic Policy

1. What would be the intermediate and longer term impact in the following key areas of the economy if increasing volumes of subsidized

petroleum product imports produce a continuing pattern of refinery closings combined with a reduced level of domestic exploration and oilfield services activity:

a. GNP growth
b. employment

2. What will be the impact in the following key areas of the U.S. economy if excessive dependence on petroleum imports leads to the reestablishment of an effective seller's cartel with significant upward movement in energy prices:

   a. GNP growth
   b. inflation
   c. interest rates
   d. balance of payments
   e. federal budget deficits

3. What impact on the following key areas of the economy would result from a supply disruption if combined crude and product imports are permitted to reach a level of 50% of U.S. demand:

   a. GNP growth
   b. inflation
   c. interest rates
   d. balance of payments
   e. federal budget deficits

IV. Administrative

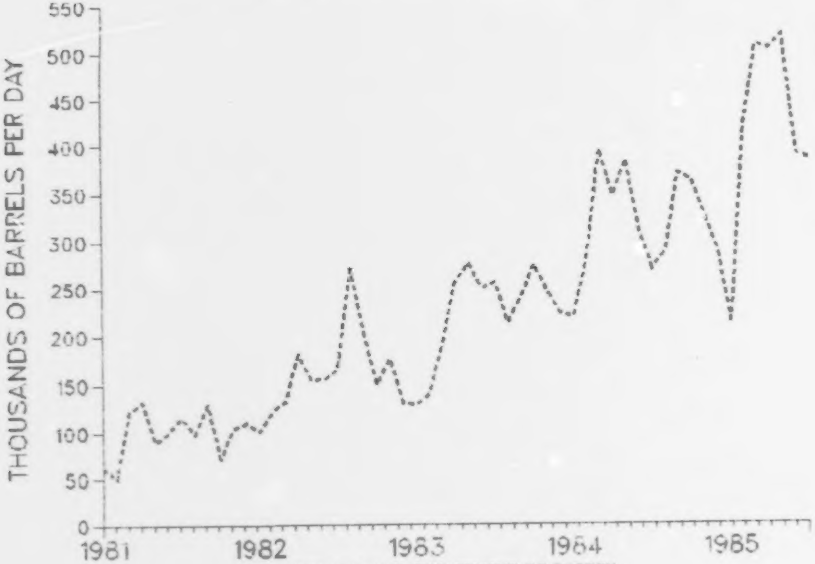
1. Specifically, what groups in the Executive Branch and the Congress have responsibility from a policy standpoint for analyzing these issues? What actions or studies in these areas are currently under way?

2. As an institutional matter, can we learn from the experience of the 1970's and adopt appropriate remedial measures in advance of a crisis?

CHART 1

U. S. GASOLINE IMPORTS

EXCLUDES SHIPMENTS FROM P.R. & V.I.



SOURCE: U.S. DEPARTMENT OF ENERGY

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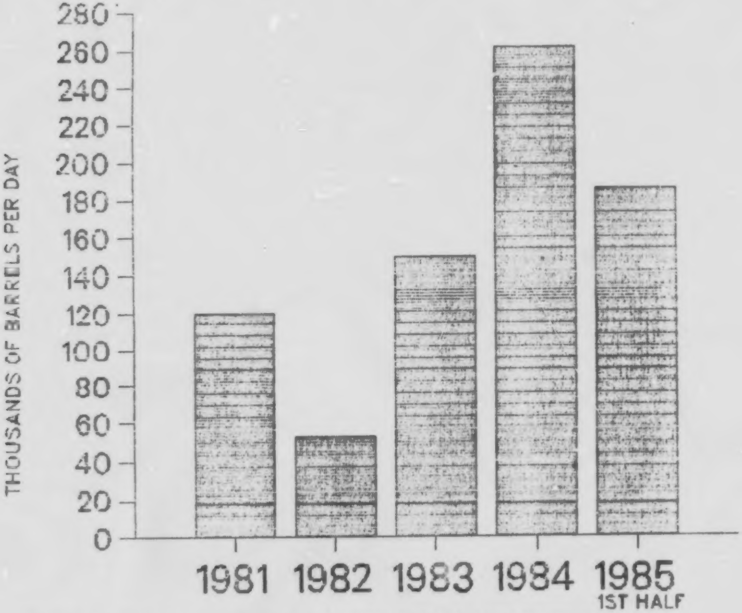
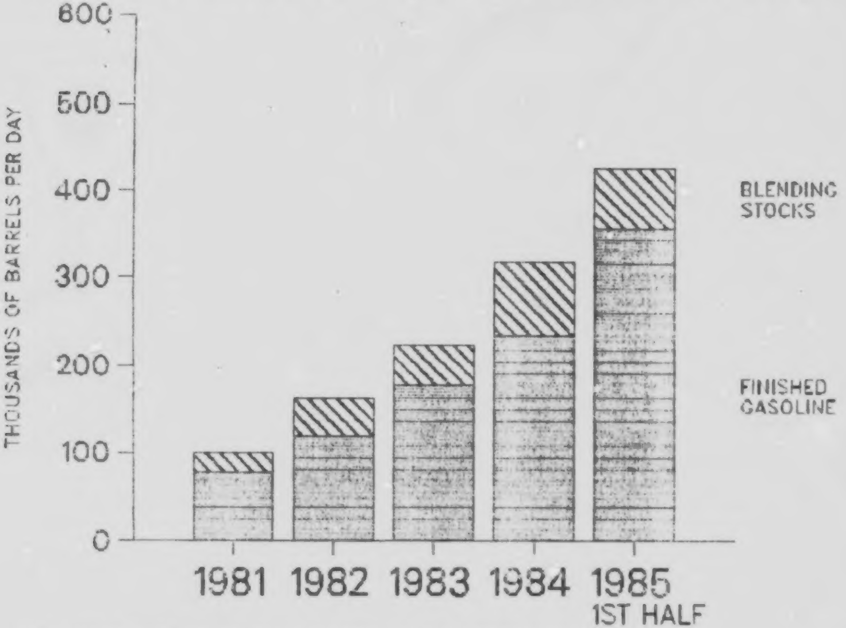
U.S. IMPORTS OF MIDDLE DISTILLATES*



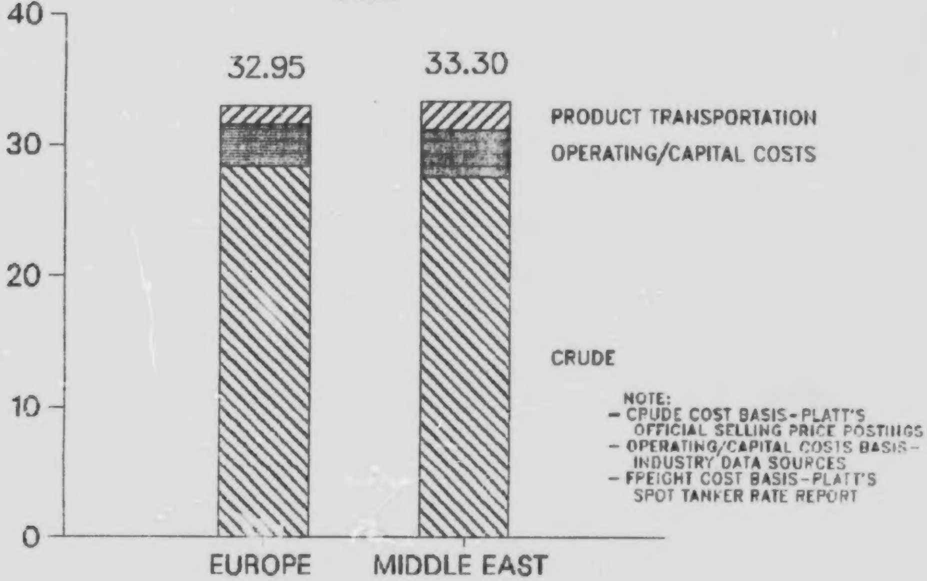
*EXCLUDES SHIPMENTS FROM PUERTO RICO & VIPGIN ISLANDS

U.S. IMPORTS OF FINISHED GASOLINE AND BLENDING STOCKS*



*EXCLUDES SHIPMENTS FROM PUERTO RICO & VIRGIN ISLANDS

1985 ESTIMATED EXPORT REFINERY PRODUCT SALES COST $/BBL



NOTE:
- CRUDE COST BASIS–PLATT'S OFFICIAL SELLING PRICE POSTINGS
- OPERATING/CAPITAL COSTS BASIS–INDUSTRY DATA SOURCES
- FREIGHT COST BASIS–PLATT'S SPOT TANKER RATE REPORT

Chart 5

U.S. EAST COAST
PLATTS HIGH SPOT IMPORT PRODUCT SALES PRICE VS. FOREIGN REFINERS COST

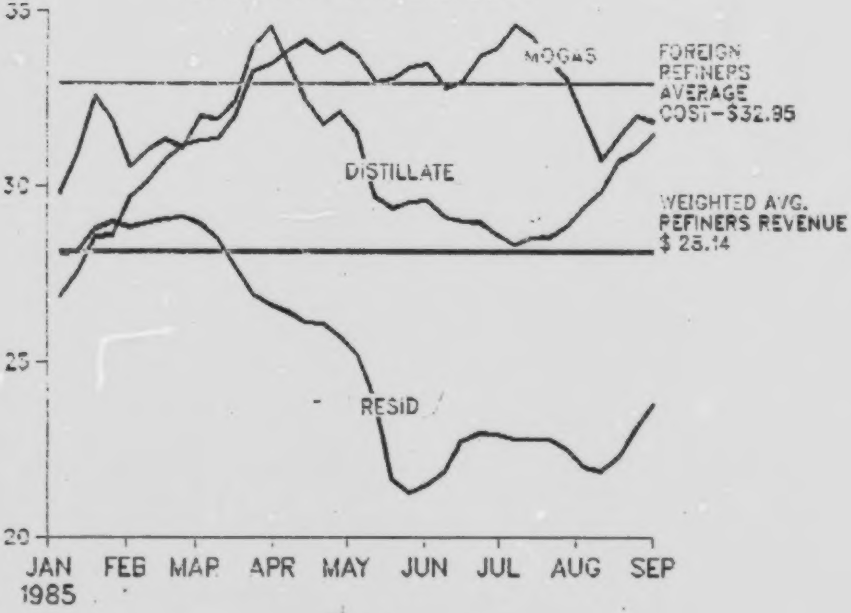
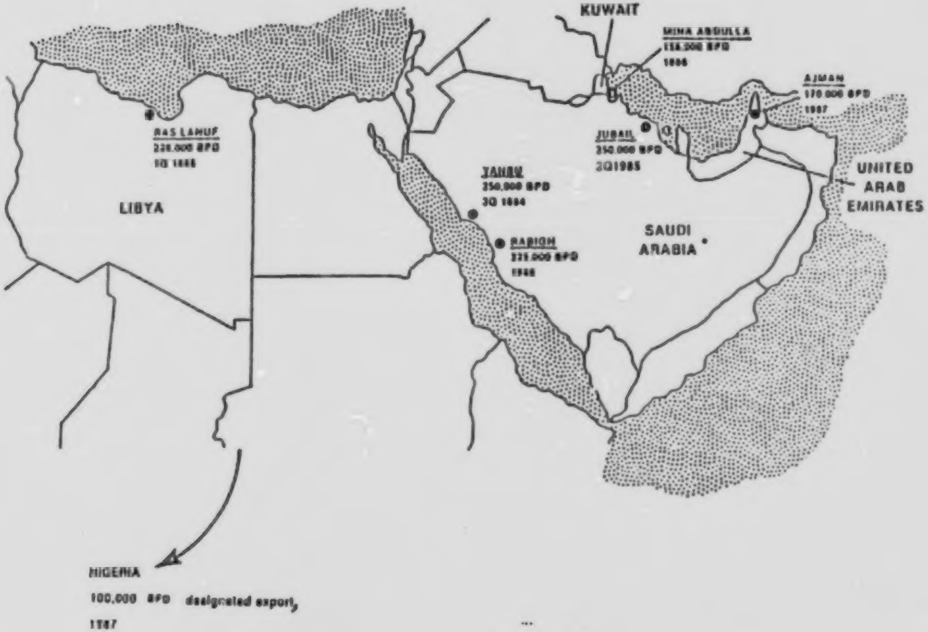


CHART 6

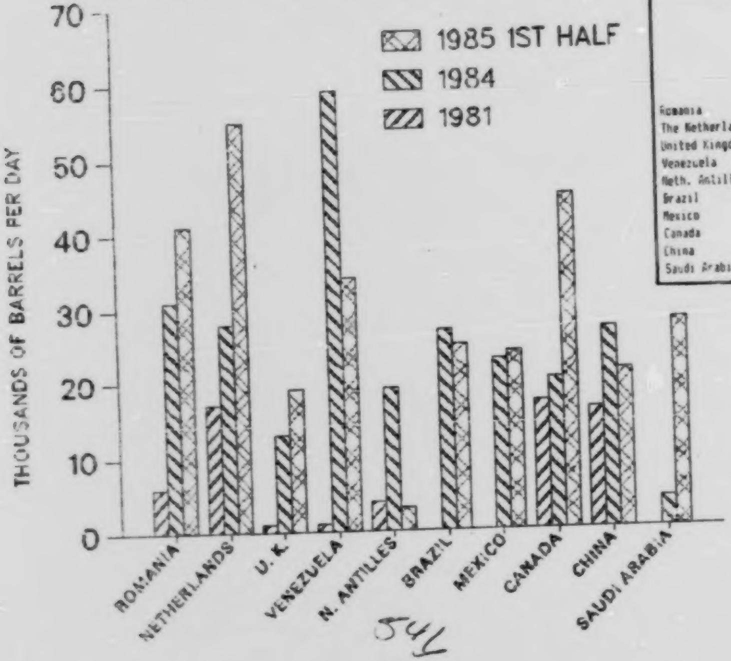
MAJOR EXPORT REFINERY PROJECTS


KUWAIT
MINA ABDULLA
158,000 BPD
1986
AJMAN
170,000 BPD
1987
JUBAIL
250,000 BPD
2Q1985
UNITED
ARAB
EMIRATES
YANBU
250,000 BPD
3Q 1984
RABIGH
325,000 BPD
1985
SAUDI
ARABIA
RAS LANUF
220,000 BPD
1Q 1985
LIBYA
NIGERIA
100,000 BPD designated export,
1987

545

CHART 7

U.S. GASOLINE IMPORTS: TOP TEN SUPPLYING COUNTRIES



U. S. GASOLINE IMPORTS:
TOP TEN SUPPLYING COUNTRIES

	%Change '85 vs. '84	1985 1st half	1984	1981
Romania	32%	41	31	6
The Netherlands	96%	55	28	17
United Kingdom	46%	19	13	1
Venezuela	-42%	34	59	1
Neth. Antilles	-84%	3	19	4
Brazil	-7%	25	27	0
Mexico	4%	24	23	0
Canada	125%	45	20	17
China	22%	21	27	18
Saudi Arabia	600%	28	4	[illegible]

544

CHART 8

DOWNWARD TREND IN REFINING AND MARKETING EARNINGS

A recent study released by the Petroleum Industry Research Foundation, "Outlook for Light Product Imports into the U.S.", provides the following analysis of the impact of rising levels of petroleum product imports on refining and marketing earnings:

Major refiners experienced a significant decline in refining and marketing earnings between 1983 and 1984. A number of refiners, as shown in Table VI-3, experienced losses in 1984. A similar, and in many cases greater, deterioration, of results was experienced by smaller independent refiners. As additional financial pressures confront the industry, whether from market competition, government regulations, or new tax policies, and cause a further erosion of margins, additional refining capacity is placed at risk.

TABLE VI-3

REPORTED U.S. REFINING & MARKETING EARNINGS OF MAJOR OIL COMPANIES, 1982-1984
($ Million)

	1982	1983	1984
Amerada Hess	(152)	(66)	(109)
Amoco	113	216	117
ARCO	809	474	279
Chevron	186	98	(43)
Exxon	457	456	161
Mobil	139	170	(4)
Phillips	55	76	83
Shell	344	238	223
SOHIO	391	454	200
Sun	50	37	19
Texaco */	(38)	(19)	(309)
Unocal	161	123	52
Kerr-McGee	9	3	(14)
Pennzoil	45	62	(3)
Total	2,569	2,322	652

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*/ Worldwide results & includes Getty Oil results

Mr. SHARP. Thank you very much, Mr. Tell. We will next hear from Mr. Carl Bolch.

STATEMENT OF CARL BOLCH

Mr. BOLCH. Mr. Chairman, my name is Carl Bolch. I am here today on behalf of the Society of Independent Gasoline Marketers of America which is a member of the Coalition of Independent Marketers. The coalition if comprised of the Empire State Petroleum Association, the Independent Fuel Terminal Operators Association, the Independent Gasoline Marketers Council, the New England Fuel Institute and the Society of Independent Gasoline Marketers of America.

All of these groups are comprised of independent marketers of refined petroleum products. Leonard Steuart presented the views of the coalition which we endorse.

My particular purpose in appearing today is to present the specific views of the Society of Independent Gasoline Marketers of America of which I am a vice president.

SIGMA is a trade association comprised of approximately 280 independent marketers of motor fuels across the country. The association's principal purpose is to promote an economic climate in which the marketing efficiencies of its members will be relevant in the marketplace.

Specifically, SIGMA seeks to promote an undistorted wholesale market for motor fuels which will offer independent marketers the opportunity to buy on a competitive basis. The availability of foreign gasoline assures a competitive domestic wholesale market.

I should emphasize here that my company, Racetrack Petroleum, does not import gasoline or any petroleum product. However, Racetrack's ability to purchase gasoline at competitive prices is dependent on the availability of foreign product in the domestic wholesale market.

To demonstrate the importance of access to foreign product, I would like to review a few realities regarding the domestic petroleum industry.

First, SIGMA's members compete at the retail level with the very same people from whom they buy their supplies of gasoline. The only reason that refiners as a class sell to companies with whom they compete such as Racetrack is that by making such sales, they realize a larger profit than if they sold the product at retail.

Historically the functional efficiencies of independent marketers have enabled them to price competitively thereby limiting refineries profits on retail sales.

However, these functional efficiencies are relevant in the marketplace only if we are able to buy product at a competitive price at wholesale.

The availability of foreign product has ensured the competitiveness of the wholesale market.

Some refining companies have alleged that they are being irreparably damaged by imports and have sought the imposition of restraints on imports of foreign gasoline. Those seeking such restraints are primarily independent refiners whose financial performance has been disappointing over the past few years.

While SIGMA sympathizes with the independent refiners, after all independent refiners provide a substantial volume of product to SIGMA's members, we do not believe that restrictions on imports are justified by the promise of alleviating independent refiners economic woos when contrasted with the damage such restrictions would do to the competitive structure of the marketplace.

An examination of recent history is necessary to explain the problems facing the domestic refining industry.

During the 1970's governmental programs created incentives for the expansion and construction of refineries and euphoric projections of ever increasing demand for petroleum led to the over expansion of refining capacity in the United States and abroad.

Decontrol in 1981 brought about a rude shock to all within the petroleum industry. This resulted in the closure of small, inefficient refineries as well as older refineries not possessing state-of-the-art technology.

This rationalization process is still continuing and is the natural result of a marketplace adjusting to lower demand while over capacity continues to exist.

There is no question that in this rationalization process there will be victims which are likely to be the inefficient and/or the financially weak.

The independent refiners coalition would like you to limit this rationalization process to foreign markets while sheltering domestic refiners. The Independent Refiners Coalition has made unsubstantiated charges of deliberate, foreign subsidization of the refining industry.

In an industry dominated by integrated entities, charges of subsidization are very difficult to substantiate or refute and many within the domestic industry have denied its existence.

Furthermore, if subsidization is the cause of refined product imports, why are we continuing to import the overwhelming percentage of our petroleum needs in the form of crude oil when excess refining capacity exists in world markets?

At a time when due to the high value of the dollar the survival of many domestic manufacturing industries is being threatened by foreign manufactured imports, the domestic petroleum refining industry saw only 5.7 percent of gasoline usage provided by imports during 1984.

Furthermore, U.S. imports of total refined products for 1984 were at a level of 10.3 percent of domestic demand, a level which has fallen to an average of 8.8 percent for the 6 months of 1985.

This is a level below that of Japan which the independent refiners coalition has labeled at clearly protectionist. In fact, finished products imports are falling. Excluding residual fuel oil which we exclude because the independent refiners have said that that doesn't contribute to profits, so excluding residual fuel oil, finished product imports have fallen from 6 percent in 1984 to 5.7 percent for the 6 months of 1985 to 5 percent for the month of June 1985.

The Independent Refiners Coalition would ask you to grant its privileged few protection at enormous anticompetitive and inflationary cost to the American people.

Proponents of protectionist legislation would urge you to protect them for reasons of U.S. national security. These arguments are designed to evoke an emotional response and are hollow upon examination.

Our domestic national security interest are better served by a healthy worldwide petroleum industry in which there are many countries, many crude producers, many refineries, and large vested interests spread worldwide so that there will be greater pressure from many sources to resist the type of economic blackmail that was directed against our domestic refining industry by the Arabs during the 1970's.

In conclusion, the availability of imported gasoline is crucial to the competitive viability of the independent marketer not because imports actually provide substantial volumes of supply but rather because the availability of foreign products as an alternative source of supply serves as the principal inducement to domestic refiners to sell competitively priced motor fuels to their marketer competitors.

Only in such a competitive wholesale market will the marketing efficiencies of independent marketers continue to be relevant by enabling them to offer competitively priced gasoline to the consumer.

SIGMA is sympathetic to independent refiners. Nevertheless, the overwhelming dominant cause of independent refiners' problems is not imports but rather a marketplace that is undergoing adjustments from overcapacity and expectations of every increasing demand.

SIGMA appreciates this opportunity to express its views on this matter. I will be happy to respond to any questions which my testimony may have raised.

Thank you.

[Testimony resumes on p. 561.]

[The prepared statement of Mr. Bolch follows:]

United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Fossil and Synthetic Fuels

Statement of Carl Bolch, Jr.
on behalf of the
Society of Independent Gasoline Marketers of America

September 10, 1985

My name is Carl Bolch, Jr. I am Chief Executive Officer of Racetrac Petroleum, Inc., of Atlanta, Georgia, and a Vice President of the Society of Independent Gasoline Marketers of America, on behalf of which I appear today.

SIGMA is a national trade association comprised of approximately 280 independent marketers and private brand chain retailers of motor fuels. SIGMA's members market refined petroleum products in all 50 states, and their sales account for between 10 and 15 percent of the U.S. retail market for motor gasoline.

Independent marketers, such as SIGMA's members, not only compete directly with one another but also with the marketing and retailing operations of refiners. Independent marketers have had a beneficial impact on price competition in the retail gasoline marketplace. They have introduced such novel marketing devices as self service, high volume/low margin marketing, and automated retail marketing. These pioneering marketing concepts and their superior systems of cost controls, have induced price competition in the domestic market for gasoline. In fact, private brand marketers historically have been recognized as the most price competitive segment of the retail gasoline market.

Independent marketers neither produce nor refine crude oil. Thus, they are entirely dependent upon third parties for their sources of supply. Their ability to price competitively derives from their functional efficiencies. Their innovative marketing concepts and systems of cost control have minimized the amount of fixed costs which must be recovered in the per unit selling price of motor fuels. Such efficiencies can generate a cost advantage of as much as one or one-and-one-half cents per gallon. However, this cost advantage is relevant in the marketplace only under circumstances in which independent marketers can obtain competitively-priced supplies at the wholesale level. Absent the availability of such competitively-priced products, the efficiencies and innovations of independent marketers would be rendered irrelevant in the market and independent marketers could not survive.

The Relationship Between Independent Marketers and Their Supplier-Competitors

SIGMA's members compete directly at the retail level with companies from which they obtain supplies of product at wholesale. An understanding of the economic basis for this apparently self-defeating action by refiners is crucial to understanding the significance of foreign products' availability to the competitive structure of the domestic market.

Refiners, like independent marketers, are for-profit institutions. Therefore their sales to independent marketers, at price levels which allow those independent marketers to compete with them at the retail level, reflect refiners' recognition that such sales generate a profit which is superior to that of other potential sales. A seller's choice of customers reflects its conclusions regarding the best means by which it can generate the largest "netback," i.e., gross revenues minus the cost of sales. Thus, to induce a refiner to supply a marketer at a price which permits that marketer to compete with its supplier, the refiner's "netback" on its own retail sales must be below that achieved on wholesale sales. Refiner-competitors' retail netbacks are limited by the independent marketers' aggressive retail pricing which is buttressed by their operating efficiencies.

By achieving lower operating costs, marketers can assure their economic viability, provided that they are able to obtain product from sources at competitive prices which will permit those efficiencies to be relevant in the marketplace. In the current market, access to foreign products is the single most important factor which assures that competitively-priced product will be available thereby allowing the functional efficiencies of independent marketers to be relevant in the market.

Access to foreign product assures independent marketers' economic viability by assuring the existence of competitive wholesale market products. This assurance results from two facts: (1) imports function as an obvious addition to total supply; and, more importantly, (2) the availability of foreign products to participants in the U.S. market induces competitive pricing by domestic refiners who otherwise would have no incentive to deal on a competitive basis with their marketer-competitors. Access to foreign markets, rather than the volume of such product actually imported, constitutes the principal incentive for refiners to sell competitively-priced product to their marketer-competitors. Absent this incentive, competition at the retail level of the gasoline market would be reduced significantly.

Inadvisability of Protectionist Legislation for Refiners

The period of the 1970s was one in which U.S. governmental controls created incentives for the construction and expansion of domestic refining capacity. Domestic price and allocation controls directed the development of the domestic industry while OPEC policies dominated the foreign crude and refining markets. The period was characterized by unprecedented profits by oil companies and governments alike and by unbounded optimism for the future demand for oil, refined products, and the profits to be derived from participating in this bountiful business. With decontrol in 1981, free trade and competition returned as the norms to an industry that had learned to look to the government for the establishment of its goals and incentives.

The result was a rude shock to all within the petroleum industry — crude producers, refiners, and OPEC member states. The resulting overcapacity in both crude production and refining capacity is well documented and in fact admitted by the Independent Refiners Coalition and others seeking protectionist legislation. There is general recognition of excess refining capacity in the world today. There also is a general admission that a rationalization process has been taking place in the form of closing small inefficient refineries as well as older refineries not possessing state-of-the-art technology. The proponents of import restrictive legislation would like you to believe that this rationalization process is complete. However, the process is continuing, and this is the natural result of a marketplace adjusting to lower demand while overcapacity continues to exist. Just as the electrical generating business planned and built many nuclear power generating plants premised on optimistic projections of ever increasing electrical power demand, so the refining industry, both domestic and foreign, built many refineries to serve inaccurately-projected future demand for gasoline and refined petroleum products.

There is no question that in this period of adjustment between declining demand and the overly optimistic construction of new refineries, there will be financial victims of rationalization in the refining industry. The likely victims will be the inefficient and/or the financially weak. Just as the elimination of the Small Refiner Bias prompted the closure of many inefficient or financially weak small refiners which had been created by our government's intervention in the marketplace, the IRC likewise is now asking the Congress to enact protectionist legislation to provide new artificial supports to the domestic refining industry.

The IRC would like you to limit this rationalization process to the foreign markets while sheltering the domestic industry. The premise upon which they rely is a charge that foreign governments are subsidizing their refining operations with revenues produced from crude production. The world petroleum industry is highly integrated between crude production and refining. In an industry dominated by integrated entities, it becomes very difficult to substantiate or refute charges of subsidization.

In any totally integrated system, only the last sale, that is, the sale to the consumer, is a sale to an unaffiliated third party. All other transfers through the various stages of production, manufacture, and distribution are simply book transfer transactions. As a result, the sale of a commodity at a particular level of distribution may appear to be unprofitable while, in fact, it generates a large profit for the vertically-integrated entity. Certainly many of the domestic integrated companies deny that there is any subsidization taking place either domestically or in the foreign markets. If subsidization were the cause of increased imports, then why are we continuing to import the overwhelming percentage of our petroleum needs in the form of crude oil when excess refining capacity exists in world markets? The problem with the analysis showing that foreign governments are subsidizing refining operations is that if similar analysis were applied to domestic integrated companies, the findings would have shown that domestic integrated companies were also subsidizing their refineries during the periods of the study. We do not deny that refinery operating losses have been incurred by many, if not most, during these periods. We therefore must conclude that the cause for this is not the policies of foreign governments.

Those seeking protectionist legislation would like you to believe that their problems are being caused by an overwhelming flood of imports. What are the facts? At a time when due to the high value of the dollar the survival of many domestic manufacturing industries is being threatened by foreign manufactured imports, the domestic petroleum refining industry saw only 5.7 percent of gasoline usage provided by imports during 1984. Furthermore, U.S. imports of total refined products for 1984 were at a level of 10.3 percent of domestic demand, a level which has fallen to an average of

8.8 percent for the first six months of 1985. This is a level below that of Japan which the Independent Refiners Coalition has labeled as clearly protectionist. In fact, finished product imports are falling. Excluding residual fuel oil, finished product imports have fallen from six percent in 1984, to 5.7 percent for the first six months of 1985, to five percent for the month of June 1985.

The domestic refining industry would ask you to afford it protection at great cost to the domestic marketing segment. It is not interested in a level playing field between the domestic and foreign refining industries, rather in one tilted clearly in its direction. The marketing segment of our industry has previously seen such privileges afforded the crude and refining segments used by them to subsidize their retail marketing departments to our great detriment. Furthermore, the cost of affording this privileged few protection is enormous in anti-competitive and inflationary terms to the American people.

Proponents of protectionist legislation would urge you to protect them for reasons of U.S. national security. These hollow arguments have been heard before. They were successfully advanced in 1958 by domestic crude oil interests in obtaining a mandatory oil import program which resulted in a policy of drain America first at huge inflationary costs to the American consumer.

The Oil Import Restriction Program was supposed to insure our national security. Instead, by attempting to isolate us from world crude markets, it made us critically dependent on these markets in the early 1970s during a period of burgeoning demend. The Arab countries seized this opportunity to retaliate in retribution for our policies in the Arab-Israeli conflict. Our domestic national security interests are best served by a healthy worldwide petroleum industry in which there are many countries, many crude producers, many refineries, and large vested interests spread worldwide so that there will be greater pressure from many places to resist economic blackmail by the few.

Imports Are Not the Cause of Independent Refiners' Problems

The Subcommittee must recognize that problems encountered by domestic refiners during the past several years were not caused by imports. Rather, these problems reflect a natural, and logical, adjustment to the new realities of a market in which demand has been reduced substantially and the protections previously offered small refiners by the government's entitlements program have been removed.

Much is made of the number of refineries which have closed since January 1981. The following Table A is a representation of the total refineries that were closed during the period January 1, 1981 through December 1984, according to barrels produced per calendar day.

Table A 1/

Capacity	No. of Refineries	Percentage of Total
Over 100,000 B/CD	5	4.5%
30,001 - 100,000 B/CD	13	11.6%
10,001 - 30,000 B/CD	38	33.9%
10,000 or less B/CD	56	50.0%
TOTAL	112	100%

As Table A suggests, these refinery closings reflected conditions and circumstances totally unrelated to imports of refined products. For example, many of the refineries which were closed during this period had been built in reliance upon the continued existence of the Mandatory Petroleum Price and Allocation Regulations which provided substantial cost subsidies to small refiners. The overwhelming preponderance of other closed refineries were outmoded plants of insufficient efficiency to render them economically viable in a deregulated, highly-competitive market. Finally, it must be recognized that these refinery closings reflect a logical adjustment to the substantial decrease in demand for gasoline which developed after the Iranian embargo of 1979.

1/ Source: U.S. Department of Energy, Energy Information Administration, Petroleum Supply Annual 1984, Volume I (1985).

Domestic refining capacity remains more than adequate to fulfill domestic needs. Demand for all refined petroleum products averages about 15.7 million barrels per day.[2] Domestic capacity not only is adequate to fulfill this demand, but also could satisfy almost two million barrels a day of additional demand.

Operating refining capacity in the United States as of April 1985, i.e., capacity which is either currently being utilized or is capable of operation within 30 days, is approximately 15.6 million barrels per day.[3] Since these capacity numbers are expressed in terms of crude input, domestic refiners generate an additional "refining gain"[4] of approximately 550,000 barrels per day in output over input.[5] Finally, to be added to these numbers, over 1.5 million barrels per day of natural gas liquids which are not refined are consumed as petroleum products.[6] In short, the production of operable domestic refining capacity when coupled with refining gain and natural gas liquids production would satisfy domestic demand of approximately 17.5 million barrels per day rather than the 15.7 million barrels per day actually being experienced. Thus, it becomes clear that the United States possesses more than ample refining capacity to satisfy its needs.

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[2] Source: U.S. Department of Energy, Energy Information Administration, Petroleum Supply Annual 1984, Volume I (1985).

[3] Source: U.S. Department of Energy, Energy Information Administration, Petroleum Supply Monthly, April 1985 (June 1985). Proponents of import restrictions normally employ figures describing only actual operating capacity. As of April 1985, actual operating capacity was approximately 14.6 million barrels per day.

[4] A refining gain results when "heavy" crude oil is refined into "lighter" products. Under such circumstances a barrel of feedstocks may generate more than a barrel of products.

[5] Source: U.S. Department of Energy, Energy Information Administration, Petroleum Supply Annual 1984, Volume I (1985).

[6] Source: U.S. Department of Energy, Energy Information Administration, Petroleum Supply Annual 1984, Volume I (1985).

Beneficial Effects of Foreign Imports

In his letter of July 1, Chairman Sharp inquired: "Is there a short or long term benefit to the consumer from access to lower priced imported products?" This question contains the implicit assumption that foreign products enter the domestic marketplace at below-market prices. This assumption is fallacious. A foreign seller is no different than a domestic one in his motivation. He seeks to maximize his gain. Thus, he has no more incentive to undercut domestic market prices than does his domestic competitor. Rather, he need be only competitive to participate successfully in the market.

There is no question that consumers benefit over the long term from the availability of competitively-priced foreign products in the domestic marketplace. The availability of such product insures that the most price-competitive segment of the retail market continues its ability to make its functional efficiencies relevant and, therefore, afford consumers the benefit of the most efficient motor fuels distribution system possible.

The imposition of quotas or tariffs on motor gasoline would be a significant blow to consumers and independent marketers while affording independent refiners no long term relief from their fundamental problems. Such trade restraints clearly would raise the price of gasoline in an amount equal to the tariff. Moreover, the price of gasoline and other motor fuels would be increased additionally by an amount equal to the value of independent marketers' efficiencies which would be rendered irrelevant. While it is difficult to quantify the value of competition, this Subcommittee has never doubted that competition in the petroleum marketplace has a real and substantial value to the economy.

Conclusion

In conclusion, it is important to understand the role that imports play in the operation of the domestic motor fuels market. The availability of such products is crucial to the competitive viability of the independent marketer, not because they actually provide substantial volumes of supply, but rather because the availability of foreign products as an alternative source of supply serves as the principal inducement to domestic refiners to sell competitively-priced motor fuels to their marketer-competitors.

SIGMA is sympathetic to independent refiners. Nevertheless, the overwhelmingly dominant cause of independent refiners' problems is not imports, but rather a marketplace that is undergoing adjustment from overcapacity and expectations of ever-increasing demand. The temptation to intervene during this period of adjustment to favor the domestically inefficient or financially weak must be resisted in order to enable our domestic refining industry to react to the competitive forces of a changing world.

SIGMA appreciates this opportunity to express its views on this matter. I will be happy to respond to any questions which my testimony may have raised.

Mr. **Sharp**. Thank you very much. Gentlemen, we appreciate your testimony and I will now recognize my colleagues for 5 minutes each for questions and I will first recognize the distinguished gentleman from Texas, Mr. Bryant.

Mr. **Bryant**. Thank you, Mr. Chairman. I would like to direct my first questions to Mr. Hemminghaus and specifically ask, how much domestic refinery capacity do you believe we require to meet national security needs?

Mr. **Hemminghaus**. Mr. Bryant, there are a number of different numbers that have been mentioned today but what we need to do is we need to be able to refine domestic production which is about 9,000 barrels per day.

We need to be able to refine the strategic petroleum reserve crude oil which was designed to be pulled down at 4.5 million barrels per day and that is one way to look at the situation recognizing that today we are operating only 14.5 total million barrels per day and that is operating capacity and historically, the industry has never operated at more than 90 percent and typically 85 percent of operating capacity for any length of time.

So I would say that we are at that level now or possibly even below that level that is needed particularly if you consider the point that Mr. Tell made regarding mobilization for national security interests. That could add on over the current demand level 1.5 million barrels per day of additional requirement.

So we are at that level or below that level right now that is needed.

Mr. **Bryant**. What in your opinion will happen if new export refineries about to come onstream are allowed to displace additional U.S. capacity short run and long run?

Mr. **Hemminghaus**. In my testimony I mentioned that there may be 1 to 2 million barrels of additional capacity that could be displaced. That would put us in a position where the U.S. refining capacity can no longer meet U.S. demand on a peacetime basis and that would put the pricing mechanism for products, you know, this is a commodity business where just the marginal producer whether he is only providing 5 or 10 percent of the product, the marginal foreign producer once he gets in a position where he is supplying that marginal product, that refiner can then control prices to the consumer.

In addition, if you have this further decline in domestic capacity, you cannot meet your national security needs.

So both the consumer and the national security interest would lose in that situation.

Mr. **Bryant**. I wonder if you could elaborate a little bit on the point that I know you have made to me as we discussed this prior to the last scheduled hearing on this matter. Mr. Tell also touched on it and that is whether or not there is an ability to restart idle capacity, idle U.S. capacity, which Mr. Steuart figures in to his testimony in alleging or in asserting that we have plenty of capacity.

Mr. **Hemminghaus**. I would certainly support everything that Mr. Tell mentioned and having been a refinery manager and witnessed the problems of starting up idle equipment, I can assure you that anything that has been shut down and is not operating at all for a period of 3 to 6 months is going to be very difficult to start back up simply because of deterioration of equipment and if that equipment happens to be located alongside of operating equipment in an operating refinery, chances are that there has been some cannibalization of pumps and exchangers and other equipment that would then have to be replaced not to mention further the personnel situation.

It takes trained, experienced people to operate the high pressure/high temperature operations within a refinery and once those people are let go, it requires some additional time to bring those people back in and retrain them for startup.

So I certainly support the fact that less than half of that capacity that is idle and termed idle operable could practically really be started up.

Mr. BRYANT. Thank you.

Mr. SHARP. The time of the gentleman has expired. The gentleman from New Mexico, Mr. Richardson.

Mr. RICHARDSON. Thank you very much, Mr. Chairman. Let me just say that I found all of your testimony very interesting and I guess what the issue is boiling down to as many in the Congress are right now is the issue of the definition of free trade and protectionism.

Let me just say that while I commend Mr. Hemminghaus for his statement I regret that Mr. Steuart and Mr. Tell and Mr. Bolch while, I think, making a good case and an honest case for free trade and for not putting import restrictions that you come up with basically the argument that we all hear about what in your judgment is the definition of reciprocity in free trade.

Mr. Steuart, I even read in your statement that you said that the argument is fallacious, that below market prices are coming into the United States. Maybe you can elaborate shortly on that. Suddenly also, the three of you, constructively become national security and foreign policy experts saying that it would hurt our national security to enter into altercations with allies.

We are doing that with Japan on a number of fronts and Japan is a strong ally.

I guess my question is this, Mr. Hemminghaus and others are urging, I think, something that is only fair. They are urging equal treatment. I don't think they are urging special treatment. I sense that in your response to us what you are saying is don't do anything, the market is the cause of the problems, the market will take care of itself.

One of you, I believe, even said to increase the flow at the strategic petroleum reserve which we know is not the goal of this administration regrettably, too.

I guess my question to the three of you is what do we do about this problem? I didn't detect that you said that U.S. refiners, some U.S. refiners, are not in deep trouble. You know they are. But what do we do about it and what is the definition in your judgment of reciprocity when it comes to competing with the Pemex's in Mexico and competing with the other heavily subsidized refining operations around the world? To say that OPEC has not participated in some of this discriminatory treatment just strikes me a little strangely.

Mr. **Tell**. Mr. Richardson, may I respond because, I think, by way of clarification, I really don't associate my position with the two gentleman on the left and right.

Mr. **Richardson**. You started out as a statesman but then I detected something else.

Mr. **Tell**. That is why I would like to clarify my position. I still am a statesman, I hope.

I am not sanguine. I guess my views are much closer to the president of Shamrock in saying I don't think things are well at all. I am very concerned and that is why I am urging that we not sweep it under the rug and that we step up and say we have a problem here and then decide.

We are going to lose 1 million barrels per day of additional refining capacity in the United States if we drift along in the next 2 to 3 years in my judgment. I sense that the gentleman on my left and right would say that is the market, so be it. There are short term price benefits.

If I were comfortable about giving up that additional million barrels per day, I wouldn't be here. I think it is anomalous that we talk about free trade. We are dealing with a cartel. That is the antithesis of free trade.

You have a cartel that in the world of oversupply is still trying to manipulate prices. One of the ways that they are dealing with their problem is building export refining capacity where they can put crude through those plants and sell products and not tell you what the price was of the crude.

It is a way to move crude without discounting from official price.

Yet if you look at the average revenues that were received from product imports into the United States in the first 8 months of this year, composite revenue for residual oil distillate and motor gasoline, the weighted average revenue was $28.14 per barrel and a conservative estimate of the refining costs is $32.95 per barrel. That is almost $5 per barrel below cost.

That is what our domestic refining industry is having to look at. There is nothing wrong with these plants from a technology or a productivity standpoint. They are world class.

But they are not going to be able to stay on if their foreign competition has a raw material cost advantage of as much as $5 per barrel.

Crude costs are well over 80 percent of a total refinery cost.

So if we say as a matter of free trade let's make our domestic industry stand up there in the face of that quantity of subsidy, it may be free but it sure isn't fair.

Mr. **Richardson**. You have clarified your position and I apologize for putting you in that category.

Mr. **Sharp**. The time of the gentleman has expired. I know others would like to respond but because we have so many of our colleagues here today, I would like to make sure that everyone gets their chance first and then we will try to come back if we can.

The gentleman from Kansas, Mr. Slattery.

Mr. **Slattery**. I thank the chairman. I understand that the international marketplace with respect to the sale and purchase of oil is conducted with petrodollars and the dollar is basically the world currency for oil.

I am just curious, if the value of the dollar would drop by say 20 percent, what indirect effect does it have on your businesses? I would just like for you all to comment on what effect a 20-percent drop in the value of the dollar would have on your business and on the problem we are talking about here today?

Mr. **Bolch**. I think the impact that it would have directly on our business wouldn't matter which way the dollar went per se as long as there is a competitive marketplace for the supply of finished products that is maintained in international trade.

I think it is important to point out that at a time when we have such a high value of the dollar, we only have a 5-percent penetration of our marketplace. The shoe industry was just denied protection and they have over 50-percent penetration.

I am sorry but I don't have much sympathy for people that are blaming foreigners for their problems when it is only a 5-percent penetration.

The numbers over here speak for themselves. I think the problem is they are having to adjust to a free marketplace and they have only been there for 4 years and somebody is looking to someone else for their problems instead of examining their own businesses.

Mr. **Slattery**. So the answer to my question is that the fluctuation in the value of the currency doesn't affect your business at all.

Mr. **Bolch**. No, sir.

Mr. **Slattery**. Mr. Tell.

Mr. **Tell**. I would share in that view. As you point out crude and products are traded in dollars worldwide. So if the dollar were to decline I don't think there would be a basic shift in the relationship. That, I think, is an important distinction as compared to many other commodities that are involved in the trade deficit.

Mr. **Slattery**. I understand. Mr. Steuart.

Mr. **Steuart**. As marketers, it has no impact on us, Mr. Slattery. We are independent marketers. We buy and sell.

Mr. **Slattery**. Mr. Hemminghaus.

Mr. **Hemminghaus**. The only indirect effect that it might have is that it would probably increase the demand for petroleum overseas in other countries and, therefore, may strengthen the crude oil market somewhat.

But on the question on the table here as to imports, I don't think it is a significant effect.

Mr. **Slattery**. It has no effect at all then except with respect to the indirect effect it might have by solidifying or pressing up the price of crude because of the increased demand brought about by a reduction in price in Japan and the European community. Is that what you are saying?

Mr. **Hemminghaus**. Yes, sir.

Mr. **Slattery**. Those are the only questions I have, Mr. Chairman. Thank you.

Mr. **Sharp**. Thank you, Mr. Slattery. I will now recognize the gentleman from Texas, Mr. Hall.

Mr. **Hall**. Thank you, Mr. Chairman. First, I want to really thank you for holding these hearings and I look forward to working with you as these hearings progress.

Mr. SHARP. I know the gentleman has indicated on many occasions his very serious interest in this issue.

Mr. HALL. As imported refined products displace gasoline and other products refined domestically, domestic refining capability is shrinking.

At some point I think this capability is going to reach a point that could threaten not just jobs, but as some of you have indicated, the national security. It would not threaten our national security from the standpoint they would have toward us if we put a heavy fee on them to sell into this country, but it would affect the national security in that all of these facilities would be offshore and not be under our control if we should have some type of a national emergency.

I have seen refineries particularly in Tyler, TX, in my district, La Gloria Refining Co., call the county commissioners, the city council and all the merchants together to see how they could just continue to exist not even show a profit but to exist until we give them some relief or something changes in the world market.

I guess that gets us to the consumer. It gets us to the person who finally pays. The fear we have up here is if we give the protection, our domestic companies won't keep the faith with the people who pay the bill. That has to be the underlying fear of everyone.

What is it going to do to prices to the consumer? I guess my question should be directed to Mr. Hemminghaus. If we limit the imports of gasoline as you suggested. I think in your statement you said we must do, what about the consumer prices? How are they going to be affected?

How are we going to know that you are going to keep the faith with the people of this country and, once you get the protection, not put the prices so high that the cure is worse than the illness?

Mr. HEMMINGHAUS. Mr. Hall, this industry is a fiercely competitive industry and whether or not there is an increase in product prices to the consumer, I think, depends when action is taken. If action is taken soon, when the domestic industry still has sufficient capacity to provide all of the U.S. product demand, this industry will compete to the point that for example, if you put an increased fee on product imports, it would be my hypothesis that the consumer would see no higher prices at all, that in order for an importer to import in that environment when the industry still has sufficient capacity to meet all U.S. needs, that importer would have to provide his product with deeper subsidy.

However, if we do nothing and we let additional domestic refining capacity shutdown, then we have given that leverage, that price control whether it is only 5 or 10 percent as I explained earlier this is a business that is priced on the margin, that foreign producer refiner can then set the prices and we are at his mercy as to what those prices are set at.

I think the consumer will not be hurt because of the competition within our industry if we act soon.

Mr. HALL. If we do act, should we put a time limit on it like 3 years?

Mr. HEMMINGHAUS. I really had not addressed that before. The larger problem exists very short range with additional capacity coming on overseas and you have a weakened domestic industry at the present time that has lost money in 7 out of the last 10 quarters so that subject to some additional thought on that putting it on for only maybe 3 years might solve the problem.

Mr. **Hall**. Since this is a hearing and we are just probing and since we do have problems both with an imbalance of trade with Canada and real problems with poverty and our failure in the past to be a real partner to Mexico, they are in this hemisphere, what about relegating offshore production and importation into this country to this hemisphere? We had the Monroe Doctrine that said "Hands off this hemisphere." There might be a doctrine that says, "Hands on this hemisphere" and aid our neighbors.

I just want to kick that in. I won't ask you for an answer on that but that is something to think about. Thank you, Mr. Chairman. I yield back the balance of my time.

[The prepared statement of Mr. Hall follows:]

Statement of Hon. Ralph Hall

Mr. Chairman and members of the subcommittee, I am pleased you have decided to hold hearings today on the impact of increases in refined petroleum products on this nation's domestic refining capability. It appears that we are now seeing for the first time one of the impacts of reduced demand for crude oil on the world market, i.e., the determination of certain OPEC countries to export refined products from specially constructed "export" refineries into markets where they have traditionally sold crude—mainly ours.

While we all like the idea of paying less for everything we buy, I think it is important that we examine all aspects of this problem. As imported refined products displace gasoline and other products refined domestically, domestic refining capacity begins to shrink. At some point, this capability reaches a level that could threaten not just jobs but our national security. I am particularly concerned about the national security implications of shrinking refinery capacity as well as the trade impact of increasing volumes of these refined products.

As we examine this issue, we will probably find that the temporary allure of lower prices is more than offset by problems created by an increasing trade deficit as well as substantial dislocations in our domestic oil production and refining industries. In my district, at Tyler, Texas the LaGloria Refining Company has been the epitome of the so-called profile of determination in its refusal not to close and to survive.

Like all issues involving energy and trade, this issue is very complex and needs to be understood better by all of us. Once again, Mr. Chairman, I congratulate you for holding these hearings today and look forward to working with you as the Subcommittee examines this issue in depth.

Mr. **Sharp**. Thank you. The gentleman has used all his time usefully. The Chair now recognizes the gentleman from Louisiana, Mr. Tauzin.

Mr. **Tauzin**. I thank the chairman. Mr. Steuart, I can appreciate your testimony on two levels. One, as a wholesaler of product it is certainly in your economic interest of your coalition to have cheaper prices available to you. That is on a personal, business and economic interest.

The other argument you have made is in reference to preservation of a free market system. That is the one I would like to address.

You indicate that the United States ought not to interfere with subsidies or tariffs or what have you in the importation of product into this country because that is not good for a free market.

If you were to be presented with evidence which you seem to discount now that those who are exporting refined product into this market are doing so with the help of substantial subsidies on the

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parts of the governments that control those refineries, would you have a different view?

Mr. **Steuart**. Mr. Tauzin, I think that they should be dealt with on a case-by-case basis. I don't think that we should assume that all imports are being imported into this country at substantially below market values, and I think that we should take each case and evaluate it on a case-by-case basis.

Mr. **Tauzin**. Let me ask you this. In the OPEC cartel, who owns the oil that is refined in those refineries?

Mr. **Steuart**. It is nationally owned.

Mr. **Tauzin**. Who owns the refineries in most cases?

Mr. **Steuart**. They are in some cases shared by international companies, multinational companies.

Mr. **Tauzin**. They are shared but they are also connected in most cases to the OPEC governments themselves, are they not?

Mr. **Steuart**. That is correct, yes, sir.

Mr. **Tauzin**. When OPEC meets to discuss prices, is it presidents of corporations sitting together or is it heads of government?

Mr. **Steuart**. It is heads of government.

Mr. **Tauzin**. That is correct. Therefore, in the case of refined product being imported from this particular group of nations, we are generally talking about product refined from oil that is delivered to refineries by government decision on the basis of price and supply. Is that not correct?

Mr. **Steuart**. That is correct. Yes, sir.

Mr. **Tauzin**. In the case of oil that is produced in America and that is refined in refineries here domestically, no such meeting could occur, could it not?

Mr. **Steuart**. It could not.

Mr. **Tauzin**. It would be against our laws for the refiners to get together and set prices and supplies in our market place, right?

Mr. **Steuart**. That is correct.

Mr. **Tauzin**. In fact, aren't we the last and only unrestricted major market in the world for OPEC's newly acquired refining capacity?

Mr. **Steuart**. I wouldn't agree with that at all, Mr. Tauzin.

Mr. **Tauzin**. Aren't there restrictions in Europe and Japan to the free importation of OPEC refined products?

Mr. **Steuart**. I don't believe so.

Mr. **Tauzin**. I think there are.

Mr. **Steuart**. I think that the June IEA agreement has addressed that issue.

Mr. **Tauzin**. The ITC has recently found evidence of subsidies in the crude oil transfers arrangements of OPEC refineries. Do you deny that finding?

Mr. **Steuart**. I am not aware of it, Mr. Tauzin.

Mr. **Tauzin**. We have information that that finding has been made as a matter. In short, it seems to be this situation that we are faced with, that projections made by the refining coalition domestically indicate that as the only unrestricted major market for OPEC refining capacity and faced with ITC conclusions that, in fact, these government-owned operations with government-owned product are indeed subsidizing the price and supply on the marketplace. Projections are that we may see an increase from the current levels of 3.7 percent of demand in our marketplace this year, somebody said 5 percent as a more recent figure, that we are looking at 9.8 percent by 1986 and 12.6 percent by 1990, a rapid increase in dependency in this Nation on the light refined products, the ones that are not replaceable with natural gas and coal, gasoline, kerosene, jet fuel, the kinds of things that we might need in an emergency, or just to get around the country, a rapid increase in domestic demand for those refined products coming from of all places the same OPEC cartel that controlled prices in the 1970's and shut us off when they wanted to.

Is that good for this country's welfare and the free market system here?

Mr. **Steuart**. I think that you will find that the marketplace, in fact, has been having a negative impact on the cartel's ability to function as a cartel. Recent policy decisions in Saudi Arabia would suggest that the Saudis are now pricing their crude oil at product-related prices.

Mr. **Tauzin**. Oh, there is no question.

Mr. **Steuart**. I think that this is very significant because I believe that it is spelling the death now of a cartel that has had a very serious negative impact on our economy.

Mr. **Tauzin**. Let me conclude, Mr. Chairman, I think that is correct. The problem I see and the one I hope we all focus on in these hearings is the fact that we may indeed be breathing life again into that cartel by creating the kind of dependency that the cartel needs to control prices and supplies in our domestic market. That is what I am afraid we are about to do if we are not careful. Thank you, Mr. Chairman.

Mr. **Steuart**. To the contrary, sir, I think that an import fee could support the cartel.

Mr. **Sharp**. The time of the gentleman has expired. My colleague from Texas, Mr. Fields, is recognized for 5 minutes.

Mr. **Fields**. Mr. Tell, I wanted to just ask, are you here today in a capacity representing your company or other major petrochemical refiners?

Mr. **Tell**. I am here representing Texaco.

Mr. **Fields**. What is the general feeling among major petrochemical refiners other than Texaco?

Mr. **Tell**. I really don't think that it is appropriate for me to speak for them. I am disappointed that more haven't come forward in these hearings because this is an enormously important issue. I explained the reason that we are here.

As an international company we are going to go through this storm but I am not sure that the United States is going to come through it in the way that we might like it to.

There is no question that there is not complete unanimity if that is the thrust of your question. I would like to see more companies come forward here openly and publicly and talk about it but I can't explain why they are not here or what they would say if they were here.

Mr. **Fields**. I realize that it was a very difficult question for you to answer but I had to ask it because I represent a congressional district with a very large petrochemical and industrial presence and we virtually haven't heard from anyone on this particular issue.

So I didn't know if you were up here in a singular capacity or whether there was a feeling there that I was not aware of.

How are the refinery margins doing in the recent months of 1985?

Mr. TELL. The refinery margins go up and down and that is why I say that it is a serious mistake to take a snapshot for a single month or a single quarter.

They were terribly depressed in the first quarter. They improved in the second quarter. That is a period that some witnesses have chosen to snapshot.

In July and August, the price of gasoline has declined over $2 per barrel. What you have is normal business response to perceived continuing erosion in the price of crude oil. If that is your judgment, you are obviously going to keep your inventories low.

You finally get them so low that there becomes an upward pressure on price as you have to go out and cover. That is what happened in the second quarter.

You have had a situation with respect to the heating oil which I think is going to be kind of lagging some of the patterns that we have seen on gasoline but if you get through the snap shots and you look at the fundamentals, the fundamentals are that we have had imported products in the first 8 months that have come into this country at a conservative estimate close to $5 per barrel below the cost and I don't think one can say with any confidence that the prospect for margins are good or improving.

In the face of that, we have another million barrels-plus a day of new export refining capacity just starting to come on line with more pressure on margin.

Mr. FIELDS. In terms of the margins, do you blame the decrease in margins on these product imports or do you blame that really on the lagging consumption trends of recent years?

Mr. TELL. I think margins are a reflection of prices set in the marketplace and when you have a period where there is a supply overhang, there is going to be pressure on margins and I don't think that margin pressure alone is any justification for major policy shifts but when that margin pressure results from unfair subsidized competition that is affecting a basic industry that is critical to this Nation's national security, then you have a public policy question.

I think that is what we are focusing on today.

Mr. FIELDS. Let's just assume for a moment that Congress does nothing or we do what we do many times and we only talk about a problem and certainly this is a problem.

You mentioned previously in response to one of Mr. Richardson's question about having to deal with the cartel. Assuming Congress does nothing, what is your strategy for dealing with that cartel?

Mr. TELL. There are various proposals that have been made to deal with the problem. If we feel that we don't have a problem today with the level of our refining capacity and the prospect of losing another million barrels per day, then I guess the policy response would be to stay on our course and take the short-term price benefits.

We have recommended that the Congress should promptly support the type of legislation that Congressman Gibbons has introduced which would on a case-by-case basis where evidence of subsidy can be demonstrated impose countervailing duties to remove the subsidy so you are putting the U.S. industry on a level playing field.

I think that is an action that should be taken today even without having resolved the basic policy question.

If we say as a matter of policy we really shouldn't let this domestic refining base erode any further, then you are looking at more difficult and more painful choices.

Mr. FIELDS. I realize my time is up but one quick question, Mr. Hemminghaus, for you. You stated in your testimony that overseas refiners will shut down U.S. refineries until their market share equals their production capacity.

My question is, In your opinion what percentage of the U.S. market will be met by imported products when this point is reached?

Mr. HEMMINGHAUS. An additional 2 million barrels per day so roughly 15 to 20 percent of the U.S. product market will then be met by overseas refineries potentially.

May I just clarify one point and on your point of margin, while margin has been very poor in this industry for the last several years our company is not motivated by desire here to see margins increase. We are not looking for any kind of a subsidy.

In fact, our particular company has been able to make a profit consistently for the last 4 years in the refining business.

So our interest is strictly the national security interest and the interest for the U.S. consumer.

Mr. SHARP. I thank the gentleman and I will recognize myself for 5 minutes.

Mr. Tell, I certainly can agree from an energy security point of view that there is some theoretical point at which we do not want to lose a critical element of refining capacity.

The difficulty that many of us have just as the Secretary expressed when he was testifying on this subject, is being able to identify what level that is. You expressed that difficulty yourself. If I understand correctly Mr. Hemminghaus would say that we are about there so you have to act now and Mr. Steuart and Mr. Bolch would suggest that we are not there and there is plenty of room for risk and so the costs of intervention are not worth it.

You have not, if I understand correctly, come to a conclusion. You suggest to me that we may be getting there but you are not quite sure where it is and I wonder if you can think of a way to help us figure out where that point sort of is that is the warning point.

Mr. TELL. I would be pleased to respond to that. I don't think that there is a simple formula that is going to tell us arithmetically when we get there.

I can suggest what I think are criteria that should be applied in watching these levels come down. First, I don't believe that comparing the level of import dependence today with the early 1970's and saying, "Well, we are not any higher than we were then" is particularly meaningful.

I think you have to recognize that in the early 1970's we were importing primarily residual fuel oil which is substitutable. I think Congressman Tauzin made that point, substitutable by coal or natural gas, mostly for large powerplant generation.

Today the shift is now predominately to the lighter products, the nonsubstitutable transportation fuels. The source of the imports is not the Caribbean which it was in the 1970's. It is long haul.

In 1984 over 50 percent of the imports were from long distance sources. That has definite national security implications because there is more time on the water in a period of disruption before they can make a contribution to your domestic demands than if you are just pulling product out of the Caribbean.

The other significant difference is that the suppliers today unlike the early 1970's of these imports are foreign governments. They are not private companies and these governments have their own political agendas.

So I think just simply a straight arithmetic balancing back and forth is not meaningful.

I tried to take you through my sense of what a supply/demand balance might look like in the time of a disruption and I think that is terribly relevant because if you have normal civilian demand of close to 16 million barrels per day and you may have to impose some incremental military requirement and recognize that there is going to be even without the military and I don't want to use the word "hoarding" because it is more than that, but the perception of shortage is going to bring an increment in demand and a strong upward pressure in price.

To me as a matter of policy we ought to try to have some tools to deal with that because that is a replay of the 1970's shocks.

So I can't make the supply/demand balance. When I look at what the demand is going to be because in a time of shortage, you would think that it would be less but it is actually going to be greater than normal and your ability to cover that demand, I don't think from the standpoint of crude you have 9 million barrels per day.

You have maybe another 3 from your SPR. That will take you to 12 and even in the time of a disruption you can attract additional crude from the Western Hemisphere and if you want to pay the price you can get it here. The question is, do you have the refinery capacity to cover it.

I think in a period of crude disruption that you are going to find countries that you normally look to for product imports, Canada and Europe particularly. If they are short of crude, they are not going to have product to export. They are going to cover their domestic requirements first.

So it isn't just a matter of saying that as long as there is excess refining capacity in other countries there is no problem. There is a problem.

Mr. **Sharp**. I see that my time has expired. Do my colleagues wish more questions on this panel? We do have another panel of witnesses. Let me use my prerogative to ask one question quickly. I intend to let Mr. Steuart or Mr. Bolch respond to this question, and if you could give us a quick answer. If the Congress were to take action to in some way restrict an increase in imports in refined product, what technique do you think is the least costly or least intrusive? There is no free policy we have learned around here that does not have its down sides and its costs, but which technique and I believe tariff has already been mentioned, but which would you prefer as the best approach for the Government to take?

Mr. **Steuart**. My position, Mr. Chairman, would be that the product reserves unquestionably would be the least costly method of providing that kind of security.

Mr. **Sharp**. Since we no more money except to borrow, do we do that with a fee on the refining industry in order to pay for the product?

Mr. **Steuart**. I believe that there is still current funding for the SPR, and we could replace some of that crude reserve with product reserve.

Mr. **Sharp**. I think that is technically true but we are borrowing everything we can get our hands on to do that.

Mr. **Bolch**. I would totally agree with that.

Mr. **Tauzin**. Mr. Chairman, one point. Some of you mentioned the possibility of indeed increasing the strategic petroleum reserve and I realize you made a distinction between refined product and crude. But the reports we have from the independent refiners coalition indicates that at current growth levels in refined product import that if we had a severe disruption in 1990 as we had in the 1970's at projected levels of domestic dependence on foreign imports that we would probably be somewhere between 1.2 and 1.4 million barrels per day short of refined products regardless of the size of the petroleum reserve because we wouldn't have refineries capable of refining the petroleum reserve in the products for Americans.

So how do any of you argue that increasing the petroleum reserve in crude is going to help us in this current scenario?

Mr. **Sharp**. Let me quickly let Mr. Steuart respond to that and then see if we can get an answer from any others.

Mr. **Steuart**. I think that is highly speculative, Mr. Tauzin. I haven't seen any studies that would suggest that we are going to see that level of imports. To take action right now that would have an adverse reaction, in my judgment, on our foreign trade policy, would be enormously costly to U.S. industry. I don't think that is appropriate.

Right now we are importing 5.5 percent of total demand for gasoline. That could hardly be considered a national security risk.

Mr. **Tauzin**. The trend lines are there. Last year we were at 3.3, I think, and the year before at 2.2 and if you say we are over 5 now the trend lines are to 8.6 in 1986 and 12 percentage points for 1990. It is on that trend line that these indeed speculative arguments are being made. But isn't that dangerous for us?

Mr. **Steuart**. In the late 1970's, we saw a trend line relating to demand, but when decontrol came, look what happened to our demand. Why do you have to assume that the trend lines that you see today are cast in stone and are going to continue to climb?

Mr. **Tauzin**. Let me answer that.

Mr. **Sharp**. Sure. The Chair would like to get an answer to some of his questions in a minute here. I will let my colleague who feels very strongly about this complete.

Mr. **Tauzin**. I am sorry, Mr. Chairman. The only point I am making is that something happened in between, something changed, decontrol and the trend line was disrupted but if nothing changes the implication is that the trend line continues and we are at 1990 and then the hypothesis assumes something, assumes a disruption.

Can we risk that scenario is the question I ask?

Mr. **Bolch**. Mr. Tauzin, the latest numbers indicate that the trend line has already reversed. The first 6 months of this year, they are down to 5 from 5.7 for last year. So that in itself does not indicate that it is an endless trend line.

Mr. **Sharp**. If others would like to respond to the proposition that should the Congress act in a way on this problem what they see as the least cost path for the economy and not just the taxpayer in terms of a policy. Mr. Hemminghaus.

Mr. **Hemminghaus**. Let me suggest that a product reserve similar to crude oil reserve would not be the least cost way to go. Products generally are stored in small quantities above ground in storage tanks and if they are stored for very long periods of time, they degrade. So that could be a very expensive way to meet it.

The quota system, an auction quota system, for example, would be the most assured way of meeting the desire here. My guess would be that the increase in import fees would be the most politically acceptable and probably the least costly.

Mr. **Sharp**. Mr. Tell.

Mr. **Tell**. I would just comment, Mr. Chairman, that I think the first step should be the adoption of the natural resource subsidy legislation of the type that Congressman Gibbons has because that goes just to unfair trade and it goes case-by-case.

I would hope that if the Congress this fall is looking at some kind of comprehensive trade legislation that that would certainly be a part of it. I think it would send a very useful signal to the world that we are all for free trade when it is fair and I think that if that legislation were adopted, it might well produce some self-restraint with respect to the practices that we have been discussing this morning relating to subsidies.

Second, if you had to get into more severe direct measures such as quotas or tariffs, I certainly hope that we will not repeat the experience of the 1970's where those were not set up and administered on an even and fair basis but that there were preferences given to individual firms or segments of the industry that created the economic distortions that led to all of that excess refining capacity which we finally worked our way out.

There will be enormous political pressures to structure something to favor one particular segment or firm and I would say that if that is what we are talking about, I am opposed to it and I will take my chances on just what is going to happen in the marketplace as unfair as I think it may be.

Mr. **Sharp**. Gentlemen, obviously we could continue productively or certainly we could gain more information by a continuation but we do have another panel. I appreciate very much your time and concern about this issue and we would indicate along the lines what Mr. Fields had asked about others aside from our own witnesses here that have comments, we will of course follow our traditional pattern of holding the hearing record open so if there are other interests in the country who wish to be heard on this matter, their testimony will certainly be welcome.

Thank you very much gentlemen.

We now welcome our second panel of witnesses, Mr. Jay Howell, the director of legislative affairs for National Council of Farmer Cooperatives, Mr. Nolan W. Hancock, director, legislative affairs of the Oil, Chemical and Atomic Workers International Union, Mr. David T. Robinson, the president of the Petroleum Marketers Association of America and Mr. Edwin Rothschild with the Citizen/Labor Energy Coalition.

Gentlemen, as you know we will certainly make any written testimony or materials that you have a part of our record and we will be delighted to hear from you orally at this time. Mr. Howell.

STATEMENTS OF JAY HOWELL, DIRECTOR OF LEGISLATIVE AFFAIRS, NATIONAL COUNCIL OF FARMER COOPERATIVES; NOLAN W. HANCOCK, DIRECTOR OF LEGISLATIVE AFFAIRS, OIL, CHEMICAL, AND ATOMIC WORKERS INTERNATIONAL UNION; DAVID T. ROBINSON, PRESIDENT, PETROLEUM MARKETERS ASSOCIATION OF AMERICA; AND EDWIN ROTHSCHILD, ASSISTANT DIRECTOR, CITIZEN/LABOR ENERGY COALITION

Mr. Howell. Thank you, Mr. Chairman and members of the subcommittee. Mr. Stern regrets that he is unable to be here this morning due to a rather sudden illness. My name is Jay Howell and I am director of legislative affairs for the National Council of Farmer Cooperatives.

I would commend you, Mr. Chairman, for holding this timely hearing on what we consider to be a very important issue. The focus of my testimony today is upon a consideration of the implications of petroleum product imports for the security of U.S. agriculture's fuel supplies and future emergencies and indeed, our national and economic security.

I would like to touch briefly upon a few points in the time available and offer our full statement for the record.

Petroleum product imports represent a new and immediate factor in the emergency preparedness equation which possesses the potential of sharply reducing the effectiveness of the SPR.

The most compelling question is whether expansions of government-owned refineries in oil producing countries will displace sufficient refining capacity in the United States so that we will be unable to convert our own domestic crude production and SPR crude into vitally needed refined products for agriculture and the rest of the economy in a future emergency.

An important subset of this question is more directly germane to agriculture. The cooperative petroleum refining and distribution system supplies about 40 percent of the farm market. Cooperative refiners as independents are generally more vulnerable to subsidized product imports than are the majors who for a time can offset refining losses with their crude oil earnings.

The short-term effects of cooperative refinery shutdowns would be devastating to agriculture particularly in these difficult times; $675 million in refinery plant and equipment assets alone are at risk. In the longer term if increased product imports were to force farmer-owned cooperative refineries to shut down, then the traditional role of cooperative refiners as a principal source of supply in rural areas would be replaced by dependence on imported products and a product spot market. These sources we know dry up during a shortage.

If cooperative petroleum marketers, and in turn their farmer members, were to lose part or all of their fuel supplies at critical planting or harvest time in the next oil emergency, the fuel shortage could quickly degenerate into a food crisis of far greater magnitude.

The debate thus far seems to have dwelled far too much on whether product imports will or will not increase significantly. Before such debate can be constructive, the level of domestic refining capacity which represents the national security threshold needs to be determined. At a minimum, that point would logically seem to lie above an equilibrium between operational domestic refining capacity as compared with domestic crude oil production plus SPR drawdown capacity. This threshold may well have been reached already.

The potential stakes are so high that this question deserves the fullest investigation on an expedited basis by this subcommittee and appropriate policy bodies in government.

Our own analysis has been limited at best, but what we have learned leaves us deeply concerned. When government-owned oil companies are able to price petroleum products below the cost of crude oil for considerable lengths of time in order to disrupt and penetrate our markets, how in the world can cooperative and other independent refiners be expected to compete?

We all know that farmers and consumers across the Nation will be forced to pay dearly sometime in the future should this Nation become overly dependent on imported petroleum products.

Mr. Chairman, thank you for your indulgence. I will be pleased to answer any questions you or members of the subcommittee may have.

[Testimony resumes on p. 611.]

[The prepared statement of John H. Stern follows:]

Before the
Subcommittee on Fossil and Synthetic Fuels
of the
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C.

Hearing on Imported Petroleum Products

Mr. Chairman and Members of the Subcommittee, my name is John H. Stern, and I am vice president and general counsel with Indiana Farm Bureau Cooperative, Inc. (IFBCA). IFBCA is a regional farm supply cooperative which owns and operates a 22,600 barrel-per-stream-day refinery in Mount Vernon, Indiana and supplies petroleum products to more than 200,000 members principally in Indiana.

I am appearing today on behalf of the National Council of Farmer Cooperatives. I commend the Subcommittee for holding this timely hearing on a very important issue, and I am pleased to have the opportunity to present the National Council's views.

The focus of our testimony today is upon a consideration of **the implications of petroleum product imports for the security of U.S. agriculture's fuel supplies in future emergencies, and indeed our national and economic security.**

INTEREST OF THE NATIONAL COUNCIL

The National Council of Farmer Cooperatives is an association of cooperative businesses which are owned and controlled by farmers. Our membership includes 107 major marketing and farm supply cooperatives, the 37 banks of the cooperative Farm Credit System, and 32 state councils of farmer cooperatives. The National Council represents about 90 percent of the 6,100 local farmer cooperatives in the nation, with a combined membership of nearly two million farmers.

The National Council has been heavily involved in national policy debate concerning energy emergency preparedness for the past 12 years. Our commitment to the development and maintenance of responsible emergency preparedness policies hinges upon a fundamental relationship which underlies agriculture's unique ties to its energy inputs. Simply stated, U.S. **agriculture must have uninterrupted access to equitably-priced supplies of petroleum fuels**, in order to assure dependable supplies of food and natural fiber for the nation and the world.

Timing is critical in agricultural operations, with needs subject to the dictates of biological processes and the vagaries of nature. Agriculture, as opposed to industrial operations, cannot make up for lost production at a later date. A disruption of even short duration at the wrong time can result in crop losses for an entire year. Yet agriculture is perhaps most vulnerable to disruptions, as it lies at the end of petroleum supply lines. Past disruptions have been felt first and most acutely in rural areas.

It is this **combination of need and vulnerability** that led **farmers**, through their cooperatives, to **invest in their own petroleum supply and distribution systems** over the past half century. Today, supply cooperatives own and operate five efficient refineries possessing an aggregate production capacity of 348,283 barrels per stream day. Farmer cooperatives market petroleum products in more than 40 states and supply about 40% of all on-farm fuel and a large portion of rural system needs.

The cooperative petroleum system represents the only segment of the oil industry in which the **consumers of its products are also its owners**. This feature carries with it not only a **unique accountability** in terms of commitment of supply, service and price, but also a **unique institutional perspective and sensitivity**--borne of the painful experiences of two oil supply disruptions in the last decade--to this nation's energy security.

This is certainly true of IFBCA. We are not a "Johnny-come-lately," as we've been in the petroleum supply business on behalf of our farmer members for approximately 50 years. We are small, but we are efficient. We have weathered a lot of crises during those 50 years. During the past half century, IFBCA has made the additional investments necessary in response to the dictates of a constant and rapidly changing market environment. For example, following the Arab Oil Embargo, IFBCA moved to meet farmers' concerns about secure fuel supplies by expanding its refinery from a capacity of 12,000 barrels per stream day to the present 22,600 barrels per stream day.

IFBCA is by far the largest supplier to the farm market in Indiana. During the past two disruptions, we were there when the farmer needed us. Over the past 15 years, I think the record shows that we have been the most reliable supplier to farmers in Indiana, through both bad times and good--even while a number of majors have chosen to withdraw from parts of rural America for economic reasons.

LESSONS FROM THE PAST

History has demonstrated that a relatively minor supply disruption can generate long gasoline lines, crisis-driven price increases and devastating macro-economic consequences. For example, during the Iranian disruption in 1979, there was no actual decrease in the U.S. level of crude oil imports. Yet inventory adjustments reflecting perceived shortages led to supply disruptions and a 180-percent increase in crude oil prices.

It is estimated that the adverse economic effects of the 1979 disruption alone resulted in oil price increases that forced farmers to pay as much as $5 billion more annually for their petroleum fuels through 1983. Even though prices declined last year, much of this legacy still remains.

SPR RESPONSE

The U.S. has responded to two damaging crude oil disruptions over the past decade by moving to fill the Strategic Petroleum Reserve (SPR) with more than 460 million barrels of crude oil to date. The National Council has been and continues to be an outspoken advocate of diligence in filling the SPR, and in developing policies for its timely and effective use. We appreciate the efforts of the Chairman and certain other members of this Subcommittee over the past several years toward the same objectives.

The U.S. Department of Energy (DOE) has stated that, at current levels of petroleum imports, the SPR now has sufficient crude oil inventory to offset a total cutoff of petroleum imports for more than 90 days. However, U.S. consumers require petroleum products--gasoline, diesel fuel, heating oil--not crude oil. To risk overstating the obvious, **refineries are necessary** to accomplish that conversion. Therefore, it would seem that the declaration by DOE carries with it a vital, implicit assumption that sufficient domestic refining capacity is available to convert the SPR crude oil into needed products accessible to end use markets on a timely basis during an emergency. That assumption may be valid today. However, will it still be valid tomorrow?

A NEW VULNERABILITY?

The National Council is growing increasingly concerned that the ability of this nation to deal with future energy emergencies could be diminished significantly as a result of **rising petroleum product imports.** An analysis of import data over the last four years demonstrates an accelerated growth in imports of both finished and unfinished petroleum products, particularly gasoline. The fact that new refineries are coming on stream in oil producing nations, with others under construction or planned, makes it likely that this trend will continue.

Increasing product imports may contribute to downward pressure on fuel prices in the short term. Any fuel cost savings, when examined in isolation, certainly represent welcome news to hard-pressed farmers. However, closer assessment within a larger context identifies potential **short-run and long-run costs** to agriculture of much greater magnitude, particularly in a tight or disrupted market.

Product Imports Adversely Impact U.S. Refiners:

To the extent that product imports exacerbate the current depression in the domestic refining industry, farmer-owned cooperative refineries are also impacted. The refining sector, both U.S.

and world-wide, has been going through an extremely difficult adjustment period, in which surplus capacity has been shut down in order to reach a new equilibrium of supply and demand.

A steadily growing volume of petroleum product imports has exacerbated this adjustment process for the U.S. refining sector. The strong U.S. dollar has combined with other key characteristics of the international oil market to effectively deny U.S. refiners access to product export markets, while making the U.S. the most lucrative market for petroleum products in the eyes of overseas refiners. Foreign governments have not hesitated to subsidize products from their "national" refineries in order to penetrate the U.S. market.

Implications for Co-op Petroleum System:

Major oil companies are able to offset refining losses for considerable periods through their earnings from crude oil production and other investments. Cooperative refiners, as independents, by definition are crude deficient and generally do not have other earnings with which to weather such refining losses. The agricultural economy is going through its own severe economic crisis, and certainly has no reserves from other sources to offset refining losses.

The National Council would point out that farmer-owned cooperative refiners are not competitively disadvantaged because of technological obsolescence, inefficiency or low productivity. These refineries have high yields of gasoline, diesel fuel and heating oil amounting to 85-90 percent of their refined products, and have invested millions of dollars to maintain efficient operations. Cooperative refiners on average are more efficient than the norm for major refiners, in both fuel efficiency and cash operating costs.

Regional cooperatives which have been hard hit in other areas can ill afford concurrent losses in their refining operations. In the extreme, this could mean a shutdown of one or more cooperative refineries. A total of $675 million in cooperative refinery assets (hardware only) is potentially at risk. The impact of a major write-off could be devastating for economically weakened cooperatives and their farmer-owners.

This observation certainly applies to IFBCA. Our entire petroleum supply system is dedicated to the Mount Vernon, Indiana refinery. Should the combination of product imports, EPA-decreed lead phaseout and other factors overwhelm our capability to adjust, the shutdown of that refinery would also devalue our pipeline and terminal facilities. These are certainly large investments in relation to the size of our cooperative. And that write-off could occur at the same time IFBCA and its farmer members are suffering losses in the grain business--with prospects for the next five years even gloomier, if that's possible.

If the import trend continues and cooperative refineries are forced to shut down, then the traditional role of cooperative refiners as a principal source for the cooperative marketing and distribution system in rural areas would be replaced by dependence on imported products and a volatile spot market. These sources dry up during a shortage.

Major oil companies are not well positioned to fill the void, as they have continued to withdraw from rural America. Indeed, there is real question as to whether SPR crude oil could be refined and moved to all rural markets on a timely basis during an emergency, absent the cooperative refining system.

If cooperative petroleum marketers, and in turn their farmer-members, were to lose part or all of their fuel supplies in the next oil emergency, a fuel shortage could quickly degenerate into a food crisis of far greater magnitude.

WILL PRODUCT IMPORTS REDUCE SPR EFFECTIVENESS?

One critical question has emerged which goes far beyond the issue of the survival of the domestic refining industry, and which demands serious debate within the nation's energy policy community:

o **Will petroleum product imports displace sufficient domestic refining capacity to jeopardize the effectiveness of the SPR?**

The complex forces underlying increasing product imports are examined in detail by several other witnesses. Regardless of the causes, the National Council is concerned that should product imports continue to increase, the trend could lead to an over-dependence on imported products--creating a **new kind of vulnerability** that could again result in gasoline lines and disruption-driven price shocks in the next emergency.

Disruptions in the past have curtailed crude oil supplies. Supply disruptions of the future may also cut off finished petroleum products used in agriculture, transportation, home heating, industry and defense. The SPR could still be utilized effectively in response to either type of disruption, assuming that sufficient domestic refining capacity is available and positioned to serve all market segments.

THE ISSUE OF "FAIR" TRADE

If the economic survival of an American industry in the face of foreign competition were the only issue being debated, then one could argue--as some have--that the problem should be addressed solely under trade remedies. Then the burden would be similar to that presently faced by a number of other U.S. industries: proving whether the root cause of the threat involves "unfair" trade practices by foreign competitors.

In the case of the refining industry, the particular problem would involve the use of dual pricing of crude oil by governments in producing nations as a natural resource subsidy for export products from their refineries. At stake would be jobs and the investment base of an important cog in our national economy--certainly no small consideration. As stated earlier, farmer cooperatives and their member-owners have a great deal at risk in this regard. And we are convinced that unfair trade practices by foreign governments have contributed materially to the skewed pricing structure which has led to increased petroleum product imports penetrating the U.S. market.

However, in the case of this nation's oil supply lines, the debate must transcend the traditional arguments regarding whether the practices of foreign competitors are "fair" or "unfair". In no other industry have we experienced two foreign embargoes which curtailed a resource so vital to our economic and national security.

In no other industry has such action resulted in an 800-percent increase in prices, perpetuated by the presence of a cartel.

Should product imports reduce the ability of domestic refiners to convert domestic and SPR crude oil to needed products in the event of a future emergency, it will matter not why the displacement of domestic refining capacity occurred.

COMPELLING QUESTIONS DEMAND ANSWERS

Will petroleum product imports continue to increase? Available information certainly suggests that product imports will continue to increase. Consider the following. While U.S. refining capacity has decreased by 14% since 1982, OPEC and other Persian Gulf nations have been increasing capacity by 50%. There are 17 grassroots refineries planned or under construction (or just completed) in the world today. Only one of these is in an industrialized, or consuming, nation. All of the countries that are adding new refining capacity also have growing domestic crude oil production or spare production capacity. Three of four such refineries in Saudi Arabia alone have been designated as export refineries. The strong U.S. dollar and existing or potential trade barriers in Europe and Japan serve as powerful indicators that most exports by these refineries will be targeted for the U.S. market.

Will petroleum product imports displace sufficient domestic refining capacity to jeopardize the strategic effectiveness of the SPR in the next emergency? The National Council believes that available data, while not providing all of the answers, certainly raise serious cause for concern. The potential stakes are so high that this question deserves the **fullest investigation on an expedited basis** by this Subcommittee and other appropriate policy bodies in government.

Unfortunately, the Administration seems to be hiding its head in the sand and hoping that by ignoring the problem it will disappear. In our view, this manner of behavior is unacceptable. Indeed, the National Council's Board of Directors, when addressing this issue in a meeting on June 11, 1985, was so concerned that it unanimously adopted the Resolution provided as Enclosure 1.

We must not let time dull our senses. Although not currently in the headlines, the national energy security threat is real and omnipresent. Experts generally agree that a supply disruption is likely to occur at sometime in the future. The only points still at issue are "When" and "How severe." Current increases in petroleum demand in consuming nations are projected to continue, with a tight market expected to return within a few years. Political instabilities in major oil producing nations have by no means diminished and are expected to continue as the norm. It is only a matter of time before OPEC will again have effective control of the incremental barrel.

The product import trend reminds us again that the world we live in is a dynamic and complex system with one ominous constant--**change.** Petroleum product imports represent the **new factor** in the emergency preparedness equation, which possesses the potential capability of disarming the SPR, and turning this imposing strategic weapon into the next Maginot Line.

Will the U.S. again turn a blind eye to emerging problems, reacting to a crisis only after the fact, typically with too much of the wrong solution? It would be a senseless tragedy if this nation were to turn to the SPR in a future emergency and find it to be rendered ineffective. This scenario could easily be realized if strategic planning remains static in the midst of a rapidly changing environment.

As I mentioned earlier, IFBCA has been resilient in the face of past major challenges. However, the nature and source of petroleum product imports make it difficult, if not impossible, for us to cope with this new challenge in a business sense. The growing threat is principally from government-owned industry operating in non-market economies, where economics are by no means the only factor in the decision process. When government-owned oil companies are able to price petroleum products below the cost of crude oil for considerable lengths of time in order to penetrate our markets, how in the world can IFBCA as a cooperative business in Indiana be expected to compete? Yet the members of this Subcommittee and I both know that our farmers, and indeed all American consumers, will be forced to pay dearly at some time in the future should this nation become overly dependent on imported petroleum products.

In closing, IFBCA and the other member cooperatives of the National Council are **farmer-owned.** We have endured through two oil emergencies, with farm fuel shortages and sharply higher prices. **We are not anxious to see mistakes of the past repeated needlessly in the next foreign oil cutoff.**

Enclosure 2 is a White Paper, entitled "Petroleum Product Imports: Implications for U.S. Agriculture," which the National Council offers to the Subcommittee for the record as a sort of "snapshot" of our analysis to date on this critical issue. Our investigation thus far has generated as many questions as answers. However, one consideration is increasingly coming into focus: **If product imports continue to increase, displacing domestic refining capacity, a threshold will be crossed at some point which would place our nation under the threat of a new kind of vulnerability.** At a minimum, that point would logically seem to lie above an equilibrium between operational domestic refining capacity as compared with domestic crude oil production, plus SPR drawdown capacity. Indeed, the threshold may well have been crossed.

The National Council and IFBCA stand ready to work with others in examining potential problems raised by product imports, and, if necessary, in exploring possible appropriate policy responses. We thank you for this opportunity to share our views, and would be pleased to respond to any questions that members of the Subcommittee may have.

National
Council of
Farmer
Cooperatives

ENCLOSURE 1

RESOLUTION OF
BOARD OF DIRECTORS
NATIONAL COUNCIL OF FARMER COOPERATIVES

9-85

IMPLICATIONS OF PETROLEUM PRODUCT IMPORTS FOR U.S. AGRICULTURE

WHEREAS, U.S. Agriculture must have uninterrupted access to equitably priced petroleum fuel supplies;

WHEREAS, since 1973 two oil disruptions have demonstrated that agriculture, at the end of petroleum supply lines, is most vulnerable to energy disruptions;

WHEREAS, crisis-driven price increases in excess of 800% have had devastating consequences for farmers and the U.S. economy;

WHEREAS, farmers have invested in their own cooperative petroleum system over the past 50 years in response to their needs and vulnerabilities;

WHEREAS, the cooperative system represents the only segment of the oil industry in which the consumers of its products are also its owners, meaning a unique accountability in terms of commitment of supply, service and price, and a unique institutional perspective and sensitivity to this nation's energy security;

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Serving America's Family Farmers

WHEREAS, a new kind of vulnerability threatens to emerge, as gasoline and middle distillate imports have increased more than three-fold within the last four years, and have approached 10% of domestic demand, with further increases predicted;

WHEREAS, subsidized product imports from state-owned refineries are displacing domestic refining capacity, and have the potential to jeopardize the Strategic Petroleum Reserve's (SPR) effectiveness;

WHEREAS, rising product imports disproportionately impact upon cooperative refineries, jeopardizing $675 million in assets at a time when the agricultural economy is going through a severe economic crisis;

WHEREAS, loss of these refineries would force the cooperative distribution system to be dependent on imported products and a volatile spot market--sources which dry up during a disruption;

WHEREAS, the National Council of Farmer Cooperatives is a leading and respected voice in national energy emergency preparedness policy debate;

THEREFORE, be it resolved that the Board of Directors of the National Council of Farmer Cooperatives is deeply concerned about the implications of these trends for U.S. agriculture, and urges the U.S. Government:

- To determine on an expedited basis the level of operating domestic refining capacity necessary to meet national and economic security objectives, including the needs of American agriculture; and
- To develop an appropriate policy response designed to achieve the above objectives, while incorporating the following attributes to the maximum extent practicable--
  - minimum adverse farm fuel price impacts; and
  - minimum likelihood of trade retaliation.

ENCLOSURE 2

PETROLEUM PRODUCT IMPORTS: Implications for U.S. Agriculture[1]

FUEL ACCESS CRITICAL TO U.S. AGRICULTURE

One fundamental premise underlies agriculture's unique ties to its energy inputs:

> U.S. agriculture must have uninterrupted access to equitably priced supplies of petroleum fuels, in order to assure dependable supplies of food and natural fiber for the nation and the world.

Agriculture lies at the end of petroleum supply lines. Past disruptions have been felt first and most acutely in rural areas.

Timing is critical. While the energy needs of agriculture are seasonal and variable, they are specific and essential. Agriculture, as opposed to industrial operations, cannot make up for lost production at a later date. A disruption of even a short duration can result in crop losses for an entire year.

It is this combination of need and vulnerability that led farmers to invest in their own petroleum supply and distribution systems over the last 50 years.

Today, supply cooperatives own and operate five efficient refineries possessing an aggregate production capacity of 337,700 barrels per stream day. Farmer cooperatives market petroleum products in more than 40 states and currently supply about 45% of all on-farm fuel and a large portion of rural needs.

The cooperative petroleum system represents the only segment of the oil industry in which the consumers of its products are also its owners. This feature carries with it not only a unique accountability in terms of commitment of supply, service and price, but also a unique institutional perspective and sensitivity--borne of the painful experiences of two oil supply disruptions in the past decade--to this nation's energy security.

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[1] The National Council of Farmer Cooperatives is an association of cooperative businesses which are owned and controlled by farmers. Its membership is comprised of 107 major marketing and farm supply cooperatives, the 37 banks of the cooperative Farm Credit System and 32 state councils of farmer cooperatives. The National Council represents about 90% of the more than 6,100 farmer cooperatives in the nation, with a combined membership of nearly two million farmers. The National Council has been heavily involved in national policy debate concerning energy emergency preparedness for the past 12 years.

CONTINUED THREAT OF DISRUPTIONS

History has demonstrated that a relatively minor supply disruption can generate long gasoline lines, crisis-driven price increases and devastating macroeconomic consequences. For example, during the Iranian disruption in 1979, there was no actual decrease in the U.S. level of crude oil imports. Yet inventory adjustments reflecting perceived shortages led to supply disruptions and a 180-percent increase in crude oil prices.

It is estimated that the adverse economic effects of the 1979 disruption alone resulted in oil price increases that forced farmers to pay as much as $5 billion more annually for their petroleum fuels through 1983. Even though prices have declined recently, much of this legacy still remains.

The national security threat is real! Experts generally agree that a supply disruption is likely to occur at some time in the future. The more compelling questions have been "When?" and "How Severe?".

- Current increases in petroleum demand in consuming nations are projected to continue.
- A tight market is eventually expected to return, with demand and supply in close balance.
- Political instabilities in major producing countries are expected to continue as the norm.
- OPEC will again have effective control of the incremental barrel.

SPR RESPONSE

The U.S. has acted to avoid a repeat of damages wrought by two crude oil disruptions over the past decade by filling the Strategic Petroleum Reserve (SPR) with more that 460 million barrels of crude oil to date. The SPR is intended to be the first and major line of defense against the next disruption.

The U.S. Department of Energy (DOE) has stated that, at current levels of petroleum imports, the SPR now has sufficient crude oil inventories to offset a total cutoff of petroleum imports for more than 90 days. This statement may have been correct from a strict volumetric consideration, but doubts arise when one looks at recent import volumes and the anticipated SPR drawdown capacity.

- According to DOE, 1984 petroleum imports averaged 5.184 million barrels per day (MMBPD), excluding SPR imports. Of that total, 3.206 MMBPD were crude oil imports and 1.979 MMBPD were product imports.

- Although the SPR drawdown capacity is currently rated at approximately 2.3 MMBPD, it scheduled to go to 4.5 MMBPD.

Further, it must be recognized that U.S. consumers require petroleum products--gasoline, diesel fuel, heating oil--not crude oil. To risk overstating the obvious, refineries are necessary to accomplish that conversion.

Therefore, it would seem that the statement by DOE carries with it a vital, implicit assumption that sufficient domestic refining capacity is available to convert the SPR crude oil into needed products accessible to end use markets on a timely basis during an emergency.

PETROLEUM PRODUCT IMPORTS MAY THREATEN NATIONAL SECURITY

Two new questions are emerging which demand serious debate within the nation's policy community:

- **Are product import trends such that future disruptions will involve refined products?**

- **Will sufficient domestic refining capacity be available to utilize the nation's SPR in such an event?**

The ability of the nation to deal with future energy emergencies could be diminished significantly as a result of rising petroleum product imports. Should this lead to an over-dependence on imported products, grave national security implications may arise in the form of a new kind of vulnerability that could again result in gasoline lines and disruption-driven price shocks in the next emergency.

- Barring a change in petroleum product import trends, the next foreign supply disruption could easily curtail a significant portion of the nation's finished fuels used in agriculture, transportation, home heating, industry, and defense.

- Supply disruptions in the past cut off crude oil, with resultant gasoline lines and devastating macroeconomic consequences. Absent a sharp reduction in the rate of growth in petroleum product imports, supply disruptions of the future will also cut off finished products.

- The SPR can be used effectively in response to either type of disruption, assuming that sufficient domestic refining capacity is available and positioned to serve all market segments.

- To the extent that U.S. refining capacity is displaced by product imports, remaining capacity will eventually be insufficient to meet vital domestic energy needs in the event of another supply disruption.
  - It is extremely expensive to "mothball" refineries. Most surplus refining capacity will likely be scrapped.
  - Remaining idle capacity would be difficult or impossible to reactivate on a timely basis during an emergency. Time is required not only to reactivate refining equipment but also to train operating personnel and develop working inventories of crude oil and products.
  - It takes years, not months, to construct new refining capacity and bring it onstream. Environmental obstacles make it almost impossible to gain approval of a new "grassroots" refinery.

- The maintenance of a competitive and technologically advanced domestic refining industry is vital to insuring the availability of petroleum product supplies in an emergency, if the effectiveness of the SPR in responding to shortages is to be maintained.

PRODUCT IMPORTS DISPLACE U.S. REFINING CAPACITY

The U.S. refining sector, already buffeted by thin or negative margins, is now faced with a steadily growing volume of petroleum product imports (see "TREND ANALYSIS IN IMPORT DATA," Enclosure 1). This trend derives from a series of complex factors:

WORLD MARKET FACTORS

- Surplus Conditions--A world-wide refining capacity surplus, coupled with the current crude oil glut and the inability of the OPEC cartel to adjust production to reflect existing world market requirements, has flooded the market with petroleum products.

- Strong Dollar Makes U.S. Most Lucrative Market--The federal deficit, high interest rates, and U.S economic strength have created such a strong, over-valued dollar that U.S refiners, as well as other exporters, are excluded from world markets. Conversely, a strong U.S. dollar has helped to make the U.S. market increasingly attractive to imports, including fertilizer, automobiles, steel, textiles, leather goods--and most recently, petroleum products.

- **Gasoline is a By-product Overseas**--Many overseas refineries are designed to yield heavier fuel oil products for local markets and therefore need to export surplus gasoline to the U.S. at whatever price will assure a market.

- **Import Barriers in Other Consuming Nations**--Some other consuming nations (most notably Japan) have moved to erect barriers against petroleum product imports, largely for national security reasons. Surplus petroleum products thus tend to be focused on the U.S. market where trade barriers are essentially non-existent.

OPEC FACTORS

- **Quota Subversion Device**--Since OPEC countries are constrained by official crude oil quotas and prices, they also use product exports as a means of subverting the production quota system to increase exports and generate much needed dollars.

- **Dual Crude Pricing**--Products from new export refineries in producing countries are being sold in the global spot market at prices that net back crude values well below cartel-set, official sale prices in those same countries. In other words, these government-owned refineries are internally subsidized in order to discount cartel-set prices and penetrate markets.

- **Major Increase in Arab OPEC Refining Capacity**--Arab OPEC nations have already added or are in the process of adding four new refineries with a combined capacity of 800,000 barrels per day. These Arab States are thus increasing capacity by about 50% at the same time that U.S. domestic refining capacity has undergone a major contraction. (See Enclosures 2 and 3 for further discussion of "COMPARATIVE REFINING CAPACITIES" and "POTENTIAL EFFECT OF NEW OPEC EXPORT REFINERIES ON THE REFINING INDUSTRY IN THE UNITED STATES")

U.S. REFINING FACTORS

- **Costs of Regulation**--U.S. refiners cannot match the low raw material, energy, and regulatory compliance costs of their foreign competitors; nor do they receive government subsidies which accrue to many large overseas refiners. Furthermore, flagrant abuses in the present U.S. tariff system involving petroleum products have resulted in an influx of imported products which violate the very EPA standards that are enforced so rigorously upon domestic refineries.

- **U.S. Refining Efficiency**--U.S. refiners are NOT competitively disadvantaged because of technological obsolescence, inefficiency or low productivity. In fact, the U.S. industry is the world leader in these areas and has invested billions of dollars to maintain its lead.

COOPERATIVE REFINING FACTORS

- **Cooperative Refineries Efficient**--Farmer-owned cooperative refineries have yields of gasoline, diesel fuel and heating oil amounting to approximately 85 to 90% of their refined products.

- **Cooperative Refineries are Quite Efficient Relative to Major Refineries:**

  - At optimum utilization rates, average cooperative refinery cash operating costs were $0.87 per barrel lower than the average for major refineries in 1983.

  - In 1983, the average cooperative refinery was 25% more fuel efficient than the average major refinery.

- **Disproportionate Impact on Cooperative Refiners**--Major oil companies are able to offset refining losses for considerable periods through their earnings from crude oil production and other investments. Cooperatives and other independent refiners are by definition crude deficient and generally do not have crude production earnings with which to weather such refining losses. The cooperative system certainly has no reserves from other sources, as the agricultural economy is going through its own economic crisis.

ECONOMIC HARDSHIP FOR THE AGRICULTURAL COMMUNITY

Increasing product imports may contribute to downward pressure on fuel prices in the short term. Any fuel cost savings, when examined in isolation, certainly represent welcome news to hard-pressed farmers. However, closer assessment within a larger context identifies potential short-run and long-run costs to agriculture of much greater magnitude:

A PROBLEM, NOT A SOLUTION

- A continuing decline in the U.S. refining industry would tend to reduce competition and would lead ultimately to increased import prices. The displacement of U.S. refining capacity by imports is not a solution; rather it is a serious problem.
- The U.S. seeks a market-oriented system, which, by its very nature, must rest on competition. Foreign export refiners seek to eliminate competition.
- The margin squeeze on the domestic refining industry also translates into operating losses for farmer-owned cooperative refiners. Regional cooperatives which have been hard hit in other areas can ill afford concurrent losses in their refining operations.
- If product imports in fact exacerbate already depressed conditions, it could mean a shutdown of one or more cooperative refineries. Economically weakened cooperatives may be unable to survive the write-off of these investments. A total of $675 million in cooperative refinery assets (hardware only) is potentially at risk.

RURAL DISTRIBUTION IN JEOPARDY

- Farmers could face excessively high fuel prices, and indeed, a possible loss of fuel during critical operations.
- In agriculture, a fuel disruption of even short duration at the wrong time can result in crop losses or sharply reduced yields for that entire year. Even a modest petroleum disruption under the conditions just described could quickly turn into a food crisis of far greater magnitude. [For a further discussion of the adverse impact on agriculture of a fuel supply disruption, see Enclosure 4, "U.S. AGRICULTURE AND THE RURAL PETROLEUM SYSTEM."]

- Over the longer term, the traditional role of cooperative and other U.S. independent refiners as the main supply source for cooperative and independent marketers in rural areas could be increasingly replaced by imported products and a volatile spot market. These sources dry up during a shortage. Major oil companies are not well positioned to fill the void, as they have continued to withdraw from rural America.

- The SPR could not be used to displace lost supplies, particularly in rural areas, if sufficient domestic refining capacity is not available, or properly located, to process the crude into needed products and move those products to market on a timely basis.

- Thus, should increased product imports displace domestic refining capacity, farm operators and rural communities would be far more likely to endure serious shortages during the next petroleum emergency.

COMPELLING QUESTIONS REQUIRE ANSWERS

Will petroleum product imports displace sufficient domestic refining capacity to jeopardize the strategic effectiveness of the SPR? That is the most compelling question raised by this White Paper.

- The brief analysis of import trend data and underlying factors reminds us again that the world we live in is a dynamic and complex system with one ominous constant--change.

- Petroleum product imports represent the new factors in the emergency preparedness equation, which possess the potential capability of disarming the SPR, and turning this imposing strategic weapon into the next Maginot Line.

- The National Council believes that available data raise serious cause for concern. The potential stakes are so high that this question deserves the fullest investigation on an expedited basis at the highest policy levels of government.

Will the U.S. again turn a blind eye to emerging problems, reacting to a crisis only after the fact, typically with too much of the wrong solution?

- It would be a senseless tragedy if this nation were to turn to the SPR in a future emergency and find the SPR to be ineffective. This scenario could easily occur if strategic planning remains static in the midst of a rapidly changing environment.

What would be the impact on agriculture?

- If the trend toward U.S. dependence on imported products continues unabated, the next emergency is likely to involve a cut-off not only of crude oil but also of petroleum products. The consequences for agriculture and the nation would be devastating.
- U.S. agriculture must have uninterrupted access to equitably priced supplies of petroleum fuels, in order to assure dependable supplies of food and natural fiber for the nation and the world.
- Agriculture lies at the end of petroleum supply lines and would be the first to suffer in the event of a disruption.

The National Council's member cooperatives are farmer-owned. We have lived through two oil emergencies, with farm fuel shortages and sharply higher prices. We are not anxious to see mistakes of the past repeated needlessly in the next foreign oil cut-off. We stand ready to work with others in examining potential problems raised by product imports and, if necessary, in exploring possible appropriate policy responses.

May 1985
NCFC

ENCLOSURE 1

TREND ANALYSIS IN IMPORT DATA

A detailed analysis of DOE import data over the last four years demonstrates an accelerated growth in imports of both finished and unfinished petroleum products.[1]

- Growth in Gasoline Imports--As illustrated in Tables 1 and 2 below, total imports of finished gasoline, blending stocks and unfinished oils increased by a factor of 231% from 1981 to 1984. These same total "gasoline" imports represent an increase from 4.5% of U.S. gasoline supplied in 1981 (6,588 MBPD) to 10.3% in 1984 (6,698 MBPD).

Table 1[2]

Imports of Gasoline and Gasoline Components
1981-1984
in
Thousand Barrels per Day

Year	Finished Gasoline	Blending Stocks	Unfinished Oils	Total
1981	150	22	126	298
1982	186	39	203	428
1983	249	35	268	552
1984	291	79	319	689

Table 2

1984 Imports of Gasoline and Gasoline Components
as a Percentage of
1981 Imports of Gasoline and Gasoline Components
(Based on Table 1 above)

	Finished Gasoline	Blending Stocks	Unfinished Oils	Total
1984/ 1981	194%	359%	253%	231%

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[1] The trends may be understated, as DOE-reported imports are as much as 25 percent less than volumes reported by the U.S. Customs Service.

[2] Petroleum Supply Annual, & Petroleum Supply Monthly, (1981-4), Energy Information Administration, Department of Energy. Unfinished oils include naphtha, special naphtha, and other oils.

- **Middle Distillates**--Table 3 illustrates that imports of middle distillates (e.g., diesel fuel, home heating oil) are rising at a dramatic rate. Although absolute levels are not yet significant, the trend bears watching.

Table 3[3]

Imports of Middle Distillates
in
Thousand Barrels Per Day

Year	Total
1981	173
1982	93
1983	174
1984	270

- **Tariff Differentials and Abuses**--Anomalies in the current tariff schedule have apparently facilitated much of the surge in product imports.
  - Much of the naphtha and sub-specification gasoline being imported is entered directly, or indirectly, into the gasoline market to compete head-to-head with domestically refined product and imported gasoline which has incurred the full finished product tariff.
  - Yet, these "unfinished" products enter the country incurring less than 20% of the tariff assessed on finished product as demonstrated in Table 4.
  - While the International Trade Commission (ITC) and other jurisdictional policy bodies are currently investigating these developments, there is no assurance at present that effective corrective actions will be forthcoming.

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[3] Ibid at Footnote 2

Table 4

Import Duties on Selected Petroleum and Petroleum Products

Product	Tariff in Cents per Barrel
Crude Oil and	
Distillate & Residual Fuels:	
under 25° A.P.I.	5.25
25° A.P.I. or more	10.50
Motor Fuels: Finished Gasoline, Diesel & Jet Fuel	52.50
Naphtha & Unfinished Oils	10.50
Ethanol	2,520.00

- **CBI Ethanol Loophole**--Importers are utilizing a loophole presented by the Caribbean Basin Initiative (CBI) to avoid the present tariff on anhydrous fuel ethanol.
  - Alcohol from Brazil and Spain is being shipped to Caribbean sites for "manufacture" or "processing" --actually a drying process--in order to qualify for special tariff exemption treatment under the Caribbean Basin Initiative Program.
  - Since this additional processing occurs in the Caribbean, the normal ethanol tariff of $0.60 per gallon ($25.20 per barrel) is avoided, thereby frustrating the original intent of the tariff which was designed to offset the tax credit of $0.60 per gallon received upon sale.
  - This serves to drive down the value of domestic gasoline and alcohol fuels, further exacerbating depressed industry conditions.
- **Import Violations**--The available data mask even more serious abusive practices.
  - Evidence strongly suggests that cargoes are being miscertified to qualify for lower tariff classification (e.g., gasoline registered as naphtha).

- Evidence also suggests that importers are miscertifying lead levels of incoming "gasoline" cargoes. Such miscertification enables importers to abuse the lead rights trading program and to violate U.S. laws by selling leaded gasoline exceeding EPA lead limits or by representing leaded gasoline as unleaded product.

- Gasohol imports, which bear gasoline duties of 1.25 cents per gallon are also reportedly being miscertified. In some instances, importers have understated ethanol content to avoid the much higher ethanol tariff. One cargo was found to contain thrity percent ethanol, or 3 times the EPA limit of 10%.

ENCLOSURE 2

COMPARATIVE REFINING CAPACITIES, U.S. vs. OPEC

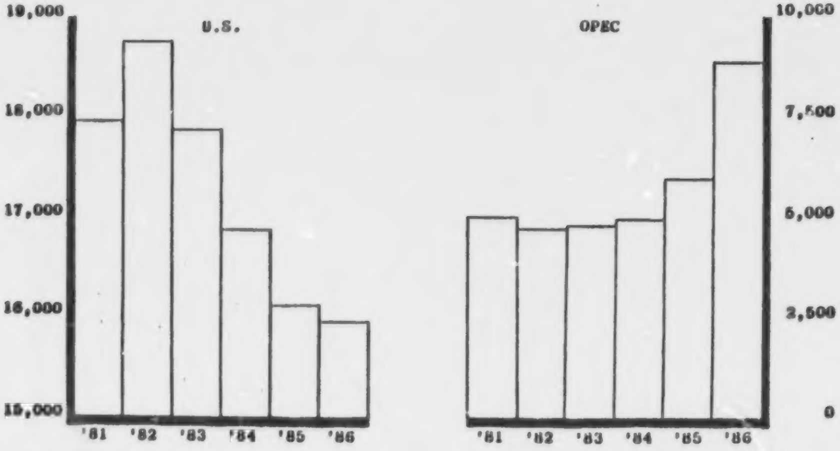
The U.S. refining industry is undergoing a major contraction. From 1981 through 1983, 2 million barrels per day (BPD) of capacity were shut down permanently, with an additional 1 million BPD idled. Capacity in excess of 1 million BPD was shut down during 1984. An additional 1 million BPD could close down in the near future. Yet, in spite of a contraction in existing capacity in the U.S. and other consuming regions, offshore refining capacity is expanding in oil producing regions.

- While U.S. refining capacity has decreased by 14% since 1982, OPEC countries have been increasing capacity by 50% over the same period. See "COMPARATIVE REFINING CAPACITIES, United States vs. OPEC." on the following page.
- Almost half of the world's refineries, outside of the U. S. and Communist countries, are now government-owned and controlled. Products from these refineries are typically subsidized internally as necessary to discount cartel-set prices or to penetrate markets.
- There are 17 grass roots refineries planned and under construction--or just completed--in the world today; only one of these is in an industrialized nation (Canada). Saudi Arabia has 4 of the 17 plants, and 3 of those are designated as export refineries and are designed to produce petroleum products for the U.S. market.
- All of the countries that are adding new refining capacity also have growing domestic crude oil production or spare production capacity.
- A combination of factors mentioned earlier, most notably the strong U.S. dollar and existing or potential trade barriers in Europe and Japan, strongly suggests that most exports by these refineries will be targeted for the U.S. market.

ENCLOSURE 2

COMPARATIVE REFINING CAPACITIES

United States[1] vs. OPEC[2] [3]
(Thousands of barrels per calendar day)



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[1] Source, U.S. capacities: Refinery Trends in Capacity and Utilization, Department of Energy, 1984.

[2] Source, OPEC capacities: 1981-1985, Oil & Gas Journal, Annual Worldwide Reports; 1986, Washington Bulletin, National Petroleum Refiners Association, October 12, 1984.

[3] In this case, OPEC includes the 13 OPEC members plus two non-OPEC members: Bahrain and Oman. The drop in capacity from 1981 to 1982 reflects the reduction in operable Iranian capacity.

ENCLOSURE 3

POTENTIAL EFFECT OF NEW OPEC EXPORT REFINERIES ON THE REFINING INDUSTRY IN THE UNITED STATES

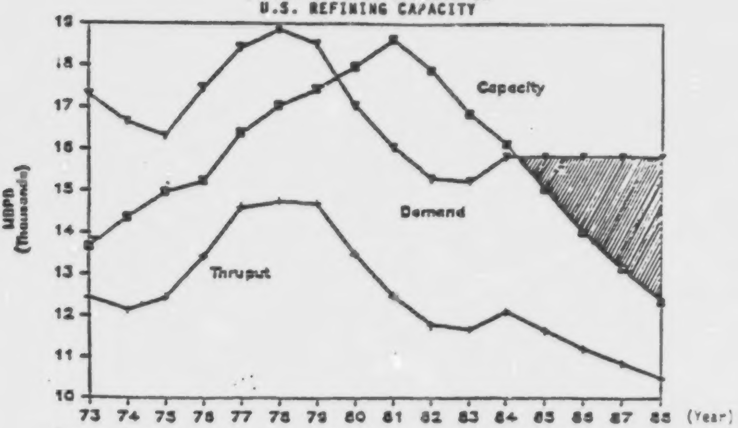
New, government-controlled export refineries coming on stream in the next few years in various OPEC countries will displace other refining capacity throughout the world. Some production from the first refineries to start up has already entered the United States, even though other market destinations would be more logical when assessed from a transportation cost perspective alone.

Significant national security considerations arise when examining the graph below, which demonstrates the potential impact on U.S. refining of new OPEC refineries. The shaded area represents the shortfall of domestic refining capacity as compared with domestic demand for refined products.

By 1988, even if remaining domestic capacity were operated at the maximum sustainable rate, it would be able to accommodate only U.S. crude oil production, plus 2.5 million barrels per day (bpd) of Strategic Petroleum Reserve (SPR) drawdown. The ultimate deliverability of the SPR will be 4 million bpd. U.S. refining capacity would be able to supply only 13.1 million bpd of the 15.8 million bpd demand forecast in this scenario. During a serious petroleum supply shortfall, reduction in demand or some other source of supply would have to make up the remaining 2.5 million bpd shortfall.

Crude oil shortages of considerably smaller magnitude than this hypothetical product shortfall have exacted heavy economic penalties in the last two disruptions.

IMPACT OF OPEC IMPORTS ON U.S. REFINING CAPACITY



Source: Graph prepared by Texas City Refining using data from Throughput Capacity through 1984; DOE; OPEC Refining Capacities: Hydrocarbon

ENCLOSURE 4

U.S. AGRICULTURE
AND
THE RURAL PETROLEUM SYSTEM[1]

FOSSIL FUELS KEY TO AGRICULTURE'S SUCCESS:

Agriculture is the backbone of the U.S. economy. Not only does the agricultural community provide the food and fiber essential to the health and economic prosperity of the United States; but, in a very real sense, it feeds much of the rest of the world as well.

Perhaps no element of our economy fulfills such a crucial, global responsibility. If agriculture in this country were, for some reason, unable to meet that responsibility efficiently, the effects would be felt all too swiftly on a worldwide scale. About 2.5 million farm families produce enough food and natural fiber to feed and clothe 235 million Americans. These same farm families also export enough agricultural products to offset more than half of our annual bill for oil imports.

The high **level of U.S. agricultural productivity**, taken for granted by many, **depends heavily on critical petroleum fuel inputs** to facilitate the conversion of energy from the sun into food and natural fiber. By adopting technologies based heavily on fossil fuels, farmers have doubled output levels since 1940, without using more cropland. Labor productivity has increased more than ten-fold during that time, with one farmer now producing enough to feed himself and 79 others.

Given the vagaries of nature and the perishable characteristics of agricultural products, timing is critical to operations. Farmers and other components of the food and natural fiber system must have fuel in sufficient quantities and at the appropriate time and place to ensure full food and natural fiber production.

DISRUPTION IMPACTS ON AGRICULTURE -- AVAILABILITY AND PRICE:

A petroleum disruption can quickly generate serious adverse impacts on U.S. agriculture in two ways--availability and price.

Shortages of fuel are of the most immediate and overriding concern, as even a disruption of short duration at the wrong time can result in crop losses or sharply reduced yields for that entire year.

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[1] This white paper was prepared under the auspices of the National Council of Farmer Cooperatives, to offer a brief perspective on how energy supply disruptions impact upon the delicate relationships between agriculture and its rural petroleum distribution network. Revised May 1985.

One USDA analysis estimated that a 10-percent shortage at the farm could lead to a 55-percent increase in farm commodity prices.[2] Fuel shortages similarly affect processing and distribution operations, and can cause spoilage losses and prevent food from ultimately reaching the consumer.

Sharp rises in energy costs resulting from a disruption are also cause for concern. For example, each 10-percent increase in energy costs across the food system can raise food prices 1.2 percent, if fully passed through.[3]

In the short-term, however, the farmer as a "price taker" in a truly competitive marketplace must absorb such cost increases (Beyond the farm gate, costs can be more readily passed on).

Unfortunately, disruption-driven price increases generally tend to become a permanent fixture. American agriculture and the economy are still paying a heavy price generated by the 1979 disruption.

To place the economic effects of the last disruption in perspective, it is estimated that the resultant oil price increase meant that farmers spent as much as $5 billion more annually for their petroleum fuels through 1983. Contrast this increased input cost alone with depressed net farm income levels in the range of $16-31 billion annually during that period. As natural gas moves toward decontrol, this critical fuel and feedstock will also increasingly reflect jumps in oil prices.

Agriculture can ill afford any disruption-driven additions to this continuing legacy, especially in light of the grim prognosis for farm income over the next several years.

The American consumer ultimately bears disruption-related costs as they impact upon agriculture--be the problem availability or price--in the form of higher food prices. This is no small matter, as food is a basic and essential commodity which accounts for about 17 percent of total consumer expenditures, with the share rising to 40 percent for low income groups.

ROLE OF THE FARMER COOPERATIVE PETROLEUM SYSTEM:

Among the farmer cooperatives the National Council represents are supply cooperatives which own and operate five efficient refineries possessing an aggregate production capacity of 337,700 barrels per stream day, and whose yields of gasoline, diesel fuel and heating oil amount to approximately 85 - 90 percent of their refined products.

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[2] "Constrained Input-Output Simulations of Energy Restrictions in the Food and Fiber System," J. B. Penn and George D. Irwin, USDA AER Report No. 280, February 1977.

[3] For a food system analysis, see "Energy Policies: Price Impacts on the U.S. Food System," USDA/ESCS, 1979.

While this represents only about two percent of United States refining capacity, cooperatives market petroleum products in more than 40 states and currently supply about 40 percent of all on-farm fuel and a large portion of rural needs.

About three-fourths of the petroleum products sold by farmer cooperatives go to farmers, with the remaining volumes sold to other rural customers. This distribution network for petroleum products is unique and irreplaceable.[4]

Farmer cooperative responsibilities have steadily increased, in large part due to partial and total market withdrawals in rural areas by major oil companies. The economic forces causing the withdrawal of these companies from rural markets are understandable. However, the responsibility of serving not only farmers but rural communities which support farming fall more heavily on cooperatives and other independent refiners. In 1979, more than 900 communities were supplied solely by farmer cooperatives, with the total growing each year.

Farmer cooperative petroleum operations represent the only segment of the oil industry in which the consumers of its products are also its owners. This feature carries with it a **unique** accountability in terms of commitment of supply, service and price.

AGRICULTURAL VULNERABILITY TO PETROLEUM DISRUPTIONS:

The rural petroleum system's ability to meet agricultural needs is heavily dependent upon the ability of farmer-owned and other independent refiners serving rural markets to obtain **adequate supplies of crude oil at competitive prices.**

The past decade has provided ample evidence that energy supply life lines to farm and rural communities are particularly sensitive to disruptions. In particular, the Arab Oil Embargo in 1973 and the Iranian shutoff in the spring of 1979 both placed great stress on fuel supply lines to rural areas, with many farmers experiencing difficulty in getting sufficient fuel for critical operations.

These crude oil disruptions generally impact first and hardest upon farmer cooperative and other independent refiners, whether generated by absolute shortfalls in supply or such high prices that the crude oil is unavailable as a practical matter. For example, as a consequence of the Iranian disruption in early 1979, cooperative refiners lost a significant portion of their crude oil supplies and were forced to run at 50 percent of capacity (compared to an industry average of 85 percent). Further, crude oil acquired by farmer cooperatives was priced well above the national average.

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[4] A thorough description of this system is contained in Petroleum Cooperatives, 1982, by E. Eldon Eversull and John R. Dunn, USDA, ACS Research Report No. 46, May 1985.

The resulting market impacts were predictable. Other refiners were not positioned to serve the rural distribution system. Even those who could have were committed to their own markets and busily rebuilding their inventories in anticipation of increasing shortages. As a result, rural areas experienced serious diesel fuel shortages during the spring planting season and winter wheat harvest, and farmers bore a disproportionate share of OPEC-driven price increases.

When fuel shortages first emerged in the spring of 1979, DOE officials initially responded to requests for assistance with a cavalier "agriculture will just have to muddle through." Only when the problem magnified to a potential agricultural disaster did a belated action emerge in the form of Special Rule No. 9, providing an agricultural priority for diesel fuel allocation. While this measure helped somewhat, there were simply insufficient supplies in the rural distribution network to make up for the losses occasioned by regional crude oil shortages.

Emergency crude oil allocations did ultimately move crude oil supplies to cooperative refineries. Unfortunately, this action did not occur for several months--well after spring planting. Had regional shortages been brought into balance early on at the crude oil end, reimposition of product allocation likely would have been avoided--and the panic-induced price spiral minimized.

Agriculture indeed was fortunate to "muddle through" somehow during past crises. Effective and timely distribution of crude oil from the Strategic Petroleum Reserve (SPR) to domestic refiners serving rural markets represent the key to avoiding a painful duplication of past mistakes when confronting future shortages.

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Mr. Sharp. Thank you very much, Mr. Howell. Mr. Hancock.

STATEMENT OF NOLAN W. HANCOCK

Mr. Hancock. Thank you, Mr. Chairman. My name is Nolan Hancock. I am the citizenship legislative director of the Oil, Chemical and Atomic Workers International Union. My statement today will address the problems posed by increasing imports of unfairly subsidized gasoline and gasoline blend stocks which are shutting down the U.S. refining industry.

This industry is a vital link in U.S. national security. It is acknowledged to be the most advanced and efficient industry of its kind in the world today.

Yet less efficient foreign government refineries are using unfair trade practices to shut it down. U.S. refinery workers' jobs are being exported overseas along with our national security as U.S. refining capacity continues to decline.

Mr. Chairman, certain oil producing governments and key oil consuming nations are engaging in blatantly discriminatory protectionist trade practices. The same oil producing governments that cartelized oil prices in the 1970's have moved downstream in the refinery business.

The fact is that these governments cannot outcompete U.S. refineries in the U.S. market on a free trade basis. Their refineries cost much more, are less efficient and distant from the U.S. market. So they sell a refineries' crude oil at a below market price which allows them to undercut U.S. refiner prices in the U.S. market.

These government producers will not sell at the same low price to us. We ask that the U.S. Government take legitimate action to stop this market distorting discriminatory practice.

They have the temerity to try labeling us as protectionist for calling attention to these practices and demanding that action be taken against them. We are accused of wanting to raise prices and destroy free trade.

Mr. Chairman, there is no free trade to destroy here. The foreign governments using discriminatory pricing to protect their uneconomic investments have already done that job. It also needs to be said plainly that we are on the verge of renewing our energy dependence on the most unstable area in the world for not only crude oil but now for gasoline and refined products as well.

Forty-three Senators have signed a letter requesting a national security probe into the increasing imports of gasoline and refined products.

The experience of OCAW members is indicative of the suffering imposed on American workers and communities due to unfair competition from subsidized imports. In 1981 our membership was 156,000 members. Today it has fallen to 110,000.

By our count over 22,000 of these jobs have been permanently lost, roughly 9,000 jobs in the energy industries, 9,000 jobs in the chemical industries, and 4,000 jobs in other industries comprise this total.

In Louisiana, Texas, Oklahoma, Pennsylvania, California, and other States, subsidized gasoline imports can affect whole communities whose economies revolve around refining.

The employment multiplier effect in the refining industry greatly exceed the standard manufacturing multiplier of roughly 4 to 1.

For example, when Texaco cut its production in half at Port Arthur, TX, 1,400 OCAW employees were laid off. Texaco estimates that the elimination of 1 refinery job in Texas resulted in the elimination of 5 additional local jobs and up to 13 jobs in the State.

The decline of the U.S. refining industry is not due to wage rates in the industry. John R. Hall, chairman of Ashland Oil, an independent U.S. refinery, recently testified that wage rates for American refinery workers comprise a very small percentage of refinery costs and played no part in refinery shutdowns in this country.

Without question, this decline has a very serious impact on the employees and their families. Our members are highly skilled employees. Shutting the door on their jobs not only leads to industrial and personal decay, it also forces them to accept jobs if they can find them in much lower paying fields, a blow to anyone's confidence.

In addition to the 9,000 OCAW jobs permanently lost in the refining industry, roughly 10,000 OCAW refinery workers have been laid off. Many of these layoffs are directly due to unfair foreign competition.

These workers feel that they have been abandoned by their own Government or made into pawns in some greater foreign policy game.

In total, the Department of Labor estimates that there are 20,400 fewer jobs in the U.S. refining industry today than there were at the end of 1980. Since 1983 year-to-date June gasoline and gasoline blend stock imports have increased 73 percent while 50 U.S. refineries have been shut down, of which only 14 have been restarted.

According to Deputy Energy Secretary Boggs, imports may account for 8 to 9 percent of the U.S. gasoline market if all potential blendables were actually accounted for under our outmoded Customs procedure.

According to Platt's Oilgram, most foreign refiners could not have sold gasoline at a profit in the U.S. market over this period based on the posted and spot market price of crude oil. But the imports continue to pour in. By eating losses until the U.S. industry shuts down, these foreign refiners will eventually reap the rewards of their waiting game.

The American worker and the American consumer will ultimately pay the price.

The Pace Co. of Houston, TX, was commissioned by the independent refiners coalition to study the impact of new OPEC export refiners coming onstream.

Pace has estimated that the impact of these new refineries in conjunction with trade barriers in Europe and Japan will cause the shutdown of an additional 1 million barrels per day of U.S. refining capacity by 1987.

Pace estimates that the total job loss due to import related refinery shutdowns caused mainly by new OPEC refiners could be as high as 62,000 jobs by 1990. The Pace study investigates the impact of other serious problems regarding the increase of imports of refined products. Tariff and nontariff barriers in Japan and Western Europe are functioning to divert gasoline and blend stock supplies to the U.S. market, which has the lowest tariff barriers to such imports.

In addition, Pace has released a new report showing how the acceleration of lead phase-down requirements for U.S. refiners has given a cost advantage to foreign refiners. This will result in more unleaded imports in the U.S. market and the potential loss of up to another million barrels per day capacity by 1987.

This threatens thousands more U.S. refining jobs between now and 1987. It is imperative that actions be taken to guard American workers and the industries they operate when unfair trade practices threaten their rightful security.

We believe that Congress should take prompt action to stop unfairly traded gasoline imports. We recommend immediate adoption of Representative Beryl Anthony's bill, H.R. 2354. We also support adoption of the Resource Input Subsidy Act, H.R. 2451.

These two pieces of legislation will serve to undue the destruction of the U.S. refining industry and the heedless human cost of the industry's workers.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Hancock follows:]

Statement of Nolan Hancock
on behalf of the
Oil, Chemical and Atomic Workers International Union
before the
Subcommittee on Fossil and Synthetic Fuels
House Energy and Commerce Committee

September 10, 1985

Mr. Chairman and Members of the Subcommittee:

I am Nolan Hancock, Citizenship-Legislative Director for the Oil, Chemical and Atomic Workers International Union (OCAW), representing over 110,000 workers in 48 states. Thank you for allowing me to testify regarding the problems posed by increasing imports of gasoline and gasoline blendstocks which have injured the U.S. refining industry. Because this industry is obviously vital to our national security, OCAW supports the immediate adoption of H.R. 2354, introduced by Representative Beryl Anthony. This bill would impose a tariff on gasoline imports and function to stop the decline of domestic refiners. To deal with the unfair practice of discounting crude oil, we also strongly support the natural resource subsidy bills currently before both the House and Senate.

THE HUMAN COST OF SUBSIDIZED COMPETITION

Mr. Chairman, we congratulate you for holding these hearings on the serious problems facing the domestic refining industry and its workers. The experience of OCAW members is indicative of the suffering imposed on American workers and communities due to the unfair competition against subsidized imports. In 1981 our membership was 156,000. Today it has fallen to 110,000. By our account, over 22,000 of these jobs have been permanently lost. Roughly 9,000 jobs in the energy industries, 9,000 jobs in chemical industries and 4,000 jobs in other industries comprise this total.

In Louisiana, Texas, Oklahoma, Pennsylvania, California and other states, subsidized gasoline imports can affect whole communities whose economies revolve around refining. The loss of a refinery has a high multiplier effect on unemployment in surrounding areas. The refining industry is capital-intensive with very high labor productivity rates. Such an industry generates many more jobs than it provides directly.

The employment multiplier effect in the refining industry greatly exceeds the standard manufacturing multiplier, which is roughly four to one. It is estimated that the multiplier effect for energy-intensive industries is about nine to one. In areas where the refining industry is concentrated, the estimated multiplier effect is even greater. For example, when Texaco cut its production in half at Port Arthur, Texas, 1400 OCAW employees were laid off. Texaco estimates that the elimination of one refinery job in Texas resulted in the elimination of five additional local jobs, and up to 13 jobs in the state.

Without question, the decline of the U.S. refining industry has had a very serious impact on the employees and their families. The potent combination of high unemployment and community deterioration ultimately leaves in its wake a terrible human toll, visible in increasing rates of alcoholism, suicide, and marital and family problems.

Our members are highly skilled employees. Shutting the door on their jobs not only leads to industrial and personal decay, it also forces them to accept jobs, if they can find them, in much lower-paying fields -- a blow to anyone's confidence. We find little humor in the newspaper articles quoting U.S. officials who say that the U.S. will resist protectionist pressures in the refined product import area. This promise was made before representatives of governments famous for their use of unfair trade practices and blatant protectionist actions to enhance their own refining industries at the expense of our own. If U.S. officials have decided to protect the free market from protectionist pressures, why don't they demand that other governments play by free market rules? It may be good foreign policy these days to give away American industries and jobs, but adding insult to injury reveals an attitude of insensitivity approaching arrogance. As time passes, the giveaway of efficient industries will come back to haunt this nation.

In addition to the 9,000 OCAW jobs lost in the refining industry alone, roughly 10,000 OCAW refinery workers have been laid off. Many of these layoffs are directly due to foreign competition. The situation is compounded when the layoffs result from unfair competition. These workers feel that they have been abandoned by their own government, or made into pawns in some greater foreign policy game. The Department of Labor estimates that there are 20,400 fewer jobs in the U.S. refining industry today than there were at the end of 1980.

American refinery workers -- or, for that matter, workers in other energy-intensive industries such as petrochemicals, glass and cement -- are not competing against superior technology or more productive workers overseas. Instead, our workers are competing against foreign governments that subsidize the energy inputs of export products.

AN INCREASE IN SUBSIDIZED IMPORTS SIGNALS A DECREASE IN U.S. REFINERIES

Since 1981, the U.S. refining industry has declined from 18 million barrels per day (b/d) of operating refining capacity to only 14.5 million b/d of operating refining capacity, a 19 percent reduction. The number of operating refineries has fallen from 314 in 1981 to only 195 today.

Until 1982, refinery closings involved mainly the smaller, less efficient topping units. Most of these refineries were children of entitlements programs and could not survive oil decontrol. About three million b/d of capacity were shut down during this period. While these refineries were shutting down, the refining industry invested $12 billion in its remaining facilities to refine greater yields of light products from heavier, less expensive crude oils. The Oil & Gas Journal states that the U.S. refining industry is the most sophisticated in the world and the world leader in refining technology.

However, since 1983, the industry has been further disrupted by a significant increase in gasoline and blendstock imports. While the refining industry has recently brought some refineries back on line and operating refining capacity is now higher than it was two months ago, the improvement is mainly the result of seasonal demand increases. Refineries affected by imports since 1983 include increasingly sophisticated plants capable of making unleaded gasoline out of heavier crude oils. These shutdowns have mainly occurred in Louisiana, California, Texas and Oklahoma, where crude supplies are readily available and where crude oil market prices are among the lowest in the world.

. The reason for these shutdowns is that gasoline has been selling for less than its production cost. In seven of the last 10 quarters, most independent and major U.S. refiners have posted significant refining losses. It must be understood that U.S. refinery economics are based on the profitable production of gasoline. Half of the current output of our refineries is gasoline because U.S. demand for gasoline is so much greater than gasoline demand in any other world region. While the total level of crude oil and product imports has not changed significantly in recent years, the mix of these imports has moved toward light refined products and away from crude oil and residual oil. We want to point out that imports of crude oil do not shut down U.S. refineries, but imports of refined products do.

THE GROWING POWER OF FOREIGN GOVERNMENT REFINERS

There has been a pronounced shift from private to government refinery ownership in the last decade. In 1973, governments owned about 15 percent of world refining capacity. Last year, the government share rose to 42 percent. The completition of the OPEC expansion will further increase this share to about 50 percent for the Free World. If Communist country refineries are included, government influence in the world's refined product markets is overwhelming.

An examination of what has happened since 1983 reveals the growing power of foreign government energy monopolies and their ability to shutdown a strategic U.S. industry. It is estimated that, in 1984, over 60 percent of our gasoline imports came from government owned and assisted refineries. With the suddan emergence of Saudi Arabia as a major importer of gasoline to the United States and the new OPEC refineries coming on line, we can expect an even greater percentage of our imports to originate from government-controlled or assisted refineries overseas. Significantly, Communist countries now account for the fifth-largest source of imports supplied. In addition, tariff and non-tariff barriers in Japan and Western Europe will continue to divert gasoline from its logical markets into the U.S. market. The U.S. tariff on gasoline is 1.25 cents per gallon, a tariff that has not been adjusted since 1958, when gasoline cost about 11 cents a gallon.

This country has got to wake up to the practices of OPEC and other energy-rich governments in the area of refined products. Otherwise we will trade our increased crude oil energy security for a more dangerous dependence on refined products. OPEC and other governments are moving into refining to evade their own oil production quotas and pricing rules, and in a desperate attempt to make up for lost foreign currency earnings caused by the decline in oil prices.

Since 1983, year-to-date June gasoline and gasoline blendstock imports have increased 73 percent while 50 U.S. refineries have been shut down, of which only 14 have been restarted. These imports have captured at least six percent of the U.S. market. According to Deputy Energy Secretary Boggs, imports may actually account for eight or nine percent of the U.S. market -- if all potential blendables were accounted for under our outmoded Customs procedures.

DISCOUNTING AND DIVERSION

According to Platt's Oilgram, most foreign refiners could not have sold gasoline at a profit in the U.S. market over this period based on the posted market prices of crude oil. How do foreign producers outcompete the most sophisticated gasoline refining industry in the world? They do it by discounting the price of the crude oil that is refined. It can't be done any other way. Meanwhile, they export oil to U.S. refiners at higher market prices. Gentlemen, the writing is on the wall. Foreign government controlled and assisted refiners are using discriminatory subsidies to penetrate our market.

The Pace Company of Houston, Texas, was recently commissioned by the Independent Refiners Coalition to study the impact of the new OPEC export refineries coming on stream. Pace has estimated that the impact of these new refineries, in conjunction with trade barriers in Europe and Japan, will cause the shutdown of an additional one million b/d of U.S. refining capacity in 1985 and 1986. Pace estimates that total job loss due to import-related refinery shutdowns could be as high as 62,000 jobs by 1990. Pace predicts that the loss of these jobs will be concentrated in Pennsylvania, Louisiana, Texas, California and Washington.

The Pace Study quantifies the impact of another serious problem regarding the increase in imports of refined products. Tariff and non-tariff barriers in Japan and Western Europe are functioning to divert gasoline and blendstock supplies to the U.S. market, which has the lowest tariff barriers to such imports.

U.S. NATIONAL SECURITY

Beyond the human cost of continued shutdowns, there is a national cost in terms of our ability to maintain U.S. energy security. There is no debate over the strategic importance of the refining industry. The taxpayers of this country have already invested over $15 billion in the Strategic Petroleum Reserve to protect us from another crude oil disruption. But the value of this reserve is directly proportional to our ability to convert it into useable products. Analysis clearly demonstrates that our industry is already incapable of processing the SPR at the planned drawdown rate of 4.5 million b/d.

A study done for DOE states that the U.S. could be "comfortable" with an operating refining capacity of 14.9 million b/d at 85 percent capacity utilization. As I stated, we now have 14.5 million b/d of operating capacity. The utilization rate is 86 percent, not the 79 percent that is usually quoted. In the last week of May, imports of finished gasoline, not including the large quantities of the blendstocks which are imported and mixed together to make more gasoline, reached an unprecedented 736,000 b/d. That is 11 percent of total domestic consumption. In general, net finished gasoline imports are up over 55 percent from this time last year, while U.S. gasoline demand has increased only 1.8 percent. If verifiable blendstocks are included, the increase is even larger.

The Department of Energy estimates that another 1.2 million b/d of capacity is currently idle but still "operable", that is, capable of being returned to service within 60 to 90 days. We believe that the "operable" capacity which could be returned to service in this time period is far less than what DOE estimates.

In the event of an emergency requiring increased output from the refining industry, many idle plants could not simply be "turned back on" to achieve increased production. Once a refinery is shut down for any length of time, the workers disperse, vital operating equipment is removed and shipped to other facilities, the remaining plant corrodes, and raw material and product inventories are liquidated. It can take as long as six months to restore a refinery to operating condition and train new personnel. It is estimated that the cost of restarting a 100,000 b/d refinery and training the new personnel to operate it safely can be as high as $250 million.

The decline of the U.S. refining industry is not due to wage rates in the industry. John R. Hall, Chairman of Ashland Oil, Inc., an independent U.S. refiner, recently testified that wage rates for American refinery workers comprised a very small percentage of refining costs and played no part in refinery shutdowns in this country.

RECOMMENDATIONS

It is imperative that action be taken to guard American workers and the industries they operate when unfair trade practices threaten their rightful security. We are not asking for protectionist barriers. We are asking for a fair chance to compete.

We believe that the Congress should take prompt action specifically regarding gasoline imports. In this regard, we recommend adoption of Rep. Beryl Anthony's bill, H.R. 2354, which incorporates the recommendations from the recent ITC study and imposes an increased two-tier tariff on imported gasoline and gasoline blendstocks at an ad valorem rate. This bill would provide an interim remedy to meet national security requirements, offset the diversion of gasoline from Japan and the EC by reason of their tariff and non-tariff barriers, and offset the foreign cost advantage and additional U.S. refinery job losses produced by accelerated U.S. lead phase-down requirements. Finally, the Congress should take prompt action to close the loopholes on fuel grade ethanol and gasohol imports.

In the House of Representatives, Rep. Sam Gibbons has introduced the Resource Input Subsidy Act, H.R. 2451, similar to the House-passed Natural Resource Subsidy legislation he sponsored last year but with an injury test added. In addition, Rep. Henson Moore has introduced a similar provision without the injury test, H.R. 2345. On the Senate side, we commend and support Senators Baucus and Long in their newly-introduced legislation, S. 1292, to impose countervailing duties when natural resource input subsidies are used by foreign governments to unfairly penetrate the U.S. market.

Reps. Frank Guarini and John Duncan have introduced the Natural Resource Subsidy provision in the Trade Law Modernization Act of 1985, H.R. 1950. A companion bill to H.R. 1950, under the title S. 1356, has been introduced in the Senate by a number of concerned Senators. This legislation is strongly supported by major labor-business coalitions including the Labor Industry Coalition for International Trade (LICIT) and the Petrochemical Trade Group

(PTC). The member companies and unions of these major coalitions believe that this legislation is essential to the modernization of U.S. trade laws in a number of critical respects.

The natural resource subsidy legislation would provide a long-term solution to the practice of discounting crude oil to refineries at discriminatory below-market prices. It also would successfully address the problem of two-tier energy pricing affecting petrochemicals like ammonia. However, it will not require Europe and Japan to lower or eliminate their discriminatory trade barriers over the short term. These barriers will cause an unwarranted decline in U.S. refining capacity from new OPEC refined product exports. For this reason, the natural resource bills do not fully address the dangers facing the domestic refining industry.

While improvement of the trade laws is being considered by Congress, we believe the Administration should take immediate steps to limit gasoline imports, or take other actions as appropriate, to assure adequate refining capacity pursuant to the President's national security powers.

We believe these actions are the minimum required to eliminate distortion and diversion in world petroleum and refined petroleum product markets over the short term, and to increase the influence of market forces and protect U.S. national security into the 1990's.

Mr. SHARP. Thank you very much, Mr. Hancock. Mr. Robinson.

STATEMENT OF DAVID T. ROBINSON

Mr. ROBINSON. Good morning, Mr. Chairman and members of the subcommittee. My name is David Robinson and I am president of Robinson Oil Co. in Garden City, KS. I am here today representing the Petroleum Marketers Association of America, formerly the National Oil Jobbers Council.

In the interest of time, I will ask that my full statement be submitted for the record and that I be permitted to summarize the most salient points.

First, Mr. Chairman, we should recognize that petroleum product imports have historically played an important role in the marketplace in this country. They have helped provide an important source of price competition, thus keeping prices low for American consumers.

In addition, they have provided an additional alternate source of supply for independent marketers.

Therefore, marketers have traditionally opposed any type of import restrictions.

Over the past year, however, many refiners including some major integrated companies have expressed concern about what they see as unfair competition from foreign refineries. Many of these companies have pointed out the decline in the number of domestic refineries, the rise in the level of product imports, particularly gasoline and distillate, and the potential threat this combination poses to U.S. national security.

Our formal testimony addresses each of these areas in great detail, but I would like to summarize a few of the points made.

One, while it is true that more than 100 domestic refiners have closed since 1981, the vast majority of these closures are the result of the elimination of the small refinery bias and the crude oil entitlement program.

Other large refineries which have closed are generally older facilities closed by major companies because they were no longer efficient.

It would appear that in 1985 the profitability of the domestic refining industry is improving. Published reports indicate that while the refiner acquisition costs have declined by $1.75 per barrel, the price of gasoline has risen by nearly 10 cents per gallon.

The primary sources of imported product coming into this country are not from the unsettled Middle East but from traditional United States allies such as Canada, Brazil, and the Netherlands.

In 1984, product imports from Arab OPEC countries constituted less than 4 percent of total gasoline imports. We are aware of no evidence to suggest that the Arab countries are selling product in the United States at prices below their cost. Arab refineries do have certain cost advantages but these generally relate to their economies of scale, their size, and to the lower energy costs from feedstocks.

Domestic refining capacity still is greater than domestic demand so national security does not appear to be threatened at this time.

After considering all the factors and more, PMAA can only conclude that the advocates of an import tax or quota have been unable to make a convincing case for any type of import restrictions based on current data.

There is a concern about what the future may hold with the increased level of refining capacity coming onboard particularly in the Middle East. PMAA believes that the situation needs to be monitored and if at some point national security is, in fact, threatened or if competitive imbalances are created domestically, then appropriate action may be necessary at that time.

I would caution, however, against Congress making policy decisions on what might happen in the petroleum industry in the future. There has been perhaps one consistent element among those who have tried to predict what would happen to the petroleum industry over the past 10 to 15 years. They have virtually all been wrong.

The best evidence of this are the companies, banks, and others that made investments premised on $35 per barrel crude and more.

Finally, Mr. Chairman, I would be remiss if I did not make one final observation which can fall under the category of irony and of hypocrisy. As independent marketers, we believe that we have been the victims of many instances of unfair marketing practices by some of the same companies which are now seeking relief from imports.

These companies have denied vigorously before this subcommittee and others any level of wrongdoing arguing that the problems faced by marketers are a function of a free and competitive marketplace. They have even gone further and suggested that Government interference in the marketplace would be akin to world war III.

Now, however, these companies are unwilling to live by the same guidelines they advanced several months ago, that is, let the free market be the final arbitrator of all disputes.

Independent marketers have been forced to face that harsh reality despite the fact that evidence support our claims is far superior to the evidence being offered to support import restrictions.

Refiners should have to face the reality as well and not be rewarded with protectionist policies which transfer income out of consumer pockets into their own.

Thank you for the opportunity to speak today, and I will be delighted to answer any questions.

[Testimony resumes on p. 654.]

[The prepared statement of Mr. Robinson follows:]

TESTIMONY OF

David T. Robinson, President
Robinson Oil Company
Garden City, Kansas

Presented to the

House Energy and Commerce Committee's
Subcommittee on Fossil and Synthetic Fuels

on

IMPORTS OF REFINED PETROLEUM PRODUCTS

On Behalf of

The Petroleum Marketers Association of America

PREFACE

The Petroleum Marketers Association of America is a federation of 41 state and regional trade associations representing 12,000 independent small business petroleum marketers. Members include gasoline and diesel fuel wholesalers, commissioned distributors of gasoline, gasoline reseller-retailers and a large number of retail fuel oil dealers. Members also wholesale or retail many other petroleum products including kerosene, LP gas, aviation fuels and motor oils, as well as residual fuel oil. Together our marketer members sell approximately 50 percent of the gasoline and 80 percent of the home heating oils sold in America under either their own private brand or the trademark of their supplier.

Good afternoon, Mr. Chairman and members of the Subcommittee. My name is David T. Robinson, and I am President of Robinson Oil Co. of Garden City, Kansas, a small petroleum marketing company which sells gasoline, diesel fuel and other petroleum products throughout western Kansas. I am appearing today on behalf of the Petroleum Marketers Association of America, of which I am the President. The Petroleum Marketers Association of America (PMAA), formerly the National Oil Jobbers Council (NOJC), is a federation of 41 state and regional associations representing some 11,000 independent marketers of a wide range of petroleum products including gasoline, home heating oil, and diesel fuel (see Attachment I). Collectively, the marketers represented by PMAA sell approximately 50 percent of the gasoline and 80 percent of the home heating oil consumed in America. Although virtually all the marketers we represent are small businessmen, the collective assets of the individual marketers represented by PMAA rank them 17th on Fortune 500's list of companies ranked by assets.

Mr. Chairman, I very much appreciate the opportunity to address an issue of critical importance to the entire petroleum industry and indeed the entire country, and I commend you for holding this hearing today on the impact of petroleum product imports on the domestic petroleum industry.

PMAA has traditionally opposed any restrictions on imports of either refined petroleum products or crude oil. Our opposition to taxes or tariffs on petroleum products has been based on several factors. First, refined product imports have always provided an important source of price competition for domestic refiners, thus keeping the price of products lower for the American consumer. Secondly, imports provided another source of supply for independent marketers, thus increasing the competition among domestic suppliers for the marketers' business. Third, independent marketers have always opposed government intrusions into the marketplace. An import tax or quota would almost automatically necessitate a new regulatory program to administer. Hardship exceptions from the rules would likely be sought by either certain countries which are allies of the U.S. or by certain domestic groups which may be particularly hard hit by a tax or quota. Such exceptions would create competitive imbalances in the market favoring some marketers over others.

The U.S. petroleum industry escaped from the nightmare of government controls in early 1981. An import tax or quota may be the first step toward returning us to those types of controls again. Such a step would be useful only to the battery of lawyers and accountants who would have a field day at the ultimate expense of the American consumer.

The fourth reason PMAA has opposed import taxes or quotas is that such taxes or quotas would have a negative impact on the nation's economy. An analysis performed by the Petroleum Industry Research Foundation in 1982 projected that an import tax of $5.00 per barrel would cost consumers $29 billion in the first year and raise inflation by 1.3 percent. A Congressional Budget Office Study in the same year said that a $5.00 per barrel tariff would increase the consumer price index by between 0.8 and 1.0 percent; the unemployment rate by 0.1 to 0.2 percent and reduce constant dollar GNP by between 0.5 and 0.7 percent. This would mean a loss of 100,000 to 200,000 jobs.

Thus a tax or tariff would fuel inflation, increase unemployment and generally reverse the economic recovery now being experienced. It also would undermine other domestic industries' abilities to compete with their foreign counterparts.

America is not energy independent, and it has not been petroleum self sufficient for several decades. We must import crude oil, petroleum products or some combination thereof. In recent times, concern surrounding imports of petroleum and petroleum products has been triggered by two Mideast oil supply disruptions and the impact of decontrol and a changing economic environment on domestic refiners.

In actuality, Americans seem more concerned about imports from the Middle East OPEC countries than about imports as a whole. Refiners have played upon anti-OPEC sentiment, claiming that these imports occupy a large and rising share of total imports and are being dumped upon our shores, resulting in the destruction of a viable domestic refining industry. It would appear that there are three separate questions here: (1) What are the root causes of the deterioration of the domestic refining industry and what role have imports played?, (2) Are countries dumping refined products in this country?, and (3) Do imports of refined products constitute a threat to national security?

Before proceeding to answer these questions, I believe that it would be useful to review financial performance of the domestic refining industry.

REFINER FINANCIAL PERFORMANCE

Refining and marketing performance showed dramatic gains in the second quarter of 1985. Integrated refiners reported earnings from refining and marketing operations of $960 million, up 417.6 percent from the second quarter 1984 earnings of $186 million, and 895 percent above first quarter earnings. Performance of independent refiners was good, but not nearly so strong as the integrated group of companies. Independent refiners earned $113.2 million this quarter as opposed to $28.4 million in the second quarter of 1984 and losses of $-12.6 million in first quarter 1985 (Q185). Table 1 exhibits the downstream earnings of both integrated and independent refiners.

TABLE 1
Refining and Marketing Earnings
(dollars in millions)

	Q285	Q284	Q185	%change from Q284	%change from Q185
Integrated	$960.0	$185.6	$107.3	+417.6	+894.7
Independent	$113.2	$ 28.4	-$ 12.6	+298.6	----

As mentioned above, both light end product prices and demand strengthened as crude oil input costs fell. Refinery cut-backs and spring turnarounds contributed to lower production and stocks. This coupled with a moderate rise in demand had the effect of increasing refiner margins.

Total product supplied was approximately 15.1 million barrels per day (bpd), down from 15.8 million bpd in first quarter 1985 and 15.7 million bpd in second quarter 1984. Finished motor gasoline consumption at 6.9 million bpd remained unchanged from the same quarter last year. However, this was a 6.2 percent increase over the first quarter of the year. This increase is primarily reflective of the seasonal increase in driving during the second quarter of each year. Distillate demand, also following seasonal patterns, was below first quarter 1985. Second quarter 1985 demand, at 2.71 million bpd, was about 2 percent below the same quarter in 1984. This is most likely the result of the 6 cent increase in the diesel tax which put a damper on diesel demand. The principal factor behind the decline in total product demand is the continued weakening position of residual fuel oil. Second quarter 1985 residual demand was approximately 3.3 million bpd, down from over 3.5 million bpd in second quarter 1984. The decline in residual demand is larger than any other petroleum product. It is primarily a result of continued fuel switching both at utilities and in the industrial sector. Table 2 below presents petroleum product demand.

TABLE 2
Quarterly Petroleum Product Demand
(in millions of barrels per day)

Product	Q285	Q185	Q284	%change from Q185	%change from Q284
MOGAS	6.9	6.5	6.9	+6.2	---
Distillate	2.71	3.3	2.77	-17.9	-2.0
Resid	3.3	3.53	3.5	-7.0	-6.0
Other	2.19	2.47	2.53	-11.3	-13.4
Total Product	15.1	15.8	15.7	-4.4	-3.8

Source: EIA Weekly Petroleum Status Report, 7/25/85

Refinery operations also showed encouraging signs as operable capacity remained stable at 15.7 million bpd. This represents a decline of .4 million bpd from the second quarter of 1984 when capacity was 16.1 million bpd. The closure of small inefficient "toppers" is the primary reason for this decline. These very inefficient units were ill equipped for producing the light end products which the market demanded. Capacity utilization has grown to 78 percent from both last quarter and second quarter 1984. Currently capacity utilization is running about 81 percent and this is in the most efficient range of operations for refineries.

While demand for total products was lower, both gasoline demand and prices were above last quarter and second quarter 1984. This, together with declining input prices, is the major reason for the turn-around in refinery and marketing profitability. Wholesale gasoline prices averaged 86.7 cents per gallon as opposed to 77.6 cents per gallon in first quarter of 1985 and 86.0 cents per gallon in second quarter of 1984. The wholesale prices of most other refined products were well below the same quarter last year. Thus, gasoline price and demand increases carried the burden of improving financial performance over other products.

The refiner's crude oil acquisition costs continued to fall, as they have since peaking in 1981. In 1981 the cost of crude oil to domestic refiners peaked at $35.24 per barrel. By second quarter 1985 crude costs had fallen to $27.08 per barrel, a decline of 23.2 percent. Second quarter 1985 crude costs are $1.70 lower per barrel than the same period last year and about the same as first quarter 1985. Throughout 1984 and first quarter 1985, declines in product prices outweighed crude oil price declines and resulted in significantly poor performance. Thus, the stabilization of crude prices from Q185 to Q285 along with higher gasoline prices increased refining margins.

Using quarterly industry-wide refinery yields and wholesale prices of refined products, a net product value of output can be constructed. This is the approximate market value of the refining industry's output. Crude oil acquisition costs and operating costs are then deducted from the product value to yield the refining industry's apparent margin. Table 3 presents these calculations for the second quarter of 1984 and 1985.

TABLE 3
Apparent Refining Margins
(in dollars per barrel)

	Q285	Q284	Change
Product Value	$32.33	$32.86	-0.53
Crude Costs	27.08	28.79	-1.71
Operating Cost	3.50	3.50	----
Refining Margin	$ 1.75	$ 0.57	+1.18

Sources: EIA Petroleum Supply Annual and Petroleum Supply Monthly, Petroleum Intelligence Weekly, and Oil & Gas Journal.

It can easily be seen from Table 3 that the refiner's position has improved over the last year. This favorable change is primarily the result of crude input costs falling faster than product values. Product values are a function of the complexity of refining capacity, crude oil price differentials and product prices.

This financial turnaround is occurring at a time when refiners are claiming that imports of cheap gasoline have destroyed the market.

REFINERY CLOSINGS

The most up-to-date, detailed information covers the period January 1, 1981, to January 1, 1985. The Energy Information Administration's 1984 Petroleum Supply Annual states that over this period there was a net decline of 101 operable refineries. Refinery closings were not uniform across refinery size. As can be seen from Table 4 below, shut-downs of refineries less than 50,000 barrels per day represent the overwhelming majority of closings, or 88 percent of all shut-downs.

Table 4
Number of Operable Refineries by Size
As of January 1.

Crude Distillation Capacity (BPD)	1981	1985	change
Less than 10,000	91	56	-35
10,001 - 30,000	93	43	-50
30,001 - 50,000	42	38	-4
50,001 - 100,000	44	39	-5
100,001 - 175,000	27	25	-2
Over 175,000	27	22	-5

Source: Energy Information Administration, 1984 Petroleum Supply Annual

In order to understand what has transpired since 1981, it is important to understand what happened shortly prior to 1981. The domestic refining industry has endured some form of government control since 1959. First, there was the Mandatory Oil Imports Program (MOIP) which sought to restrict imports of crude oil from 1959-1973. This had the impact of raising domestic crude oil prices relative to foreign prices and favored the importation of refined petroleum products. Due to differences in the application of quotas across Petroleum Administration Defense Districts (PADDS), some refineries were favored above others.

After the MOIP was dismantled, the Crude Oil Entitlements Program (COEP) and its Small Refiner Bias were legislated to protect a specific class of refiner - the independent refiner without domestic crude access. In the early 1970s, non-integrated refiners, worried by growing international crude oil prices in the face of domestic price control, sought help from the government.

The price of foreign crude oil relative to domestic crude made substantial gains. From 1973 to 1974, the refiner's acquisition cost of imported crude oil increased from $4.08 to $12.52 per barrel, tripling in price, while domestic crude oil prices increased from $4.17 to $7.18 per barrel. Domestic crude oil was price controlled from August 1971, but prices were below those of foreign crudes until 1973-1974. The non-integrated refining community clamored that this would give the major integrated oil companies with substantial domestic reserves an "unfair" cost advantage over the independents and result in either sub-optimal profits or losses for this segment of the industry. In response to this argument, Congress enacted the Crude Oil Entitlements Program (COEP) and the Small Refiner Bias (SRB).

Under COEP, each domestic refiner was assigned entitlements to domestic crude oil based upon contemporaneous crude runs to still. If a refiner used more domestic crude then it had entitlements, it was required to purchase these entitlements from other refiners having more entitlements than they needed.

The purpose of the program was to lower the cost of imported crude oil and to equalize domestic refining crude oil input costs. In this form, it actually encouraged increased importation of OPEC oil and resulted in a much larger transfer of this nation's wealth than would have occurred in the absence of the program.

The Small Refiner Bias altered the basic intent of COEP. The SRB allocated additional entitlements on a graduated scale to refiners refining on average less than 175,000 bpd. The number of SRB entitlements "is significant relative to the total number of entitlements issued," according to a DOE study, Small Refiner Bias: Final Report. Not only was the number of entitlements altered in favor of small refiners, but also the value of the entitlements increased as size decreased.

The Crude Oil Entitlements Program and the small refinery subsidies sheltered the inefficient and helped start many new, small refineries. New refineries sprang up with government guaranteed markets and cash subsidies from other refiners. Some inefficient refineries, which would have otherwise closed, remained open.

A 1984 American Enterprise Institute Study, Oil Price Shocks, Market Responses, and Contingency Planning, estimates that the value of the small refiner bias placed subsidies at up to $22.9 million per refiner, for those with capacity of 10,000 barrels per day or less. According to this same study, "the largest subsidies went to refiners in the 30,000 bpd class, $31.2 million in 1980. For a 10,000 bpd unit, the investment was $25 million, or approximately $36 million in 1978 prices and $42 million in 1980 prices. The subsidy, continuing year in and year out, was 19 percent of the initial investment in 1978 and 55 percent in 1980." The Oil and Gas Journal reported on March 26, 1979, that "... numerous tiny refineries have proliferated as a result of the small refinery entitlements bias. Since January 1, 1974, according to Department of Energy statistics, over 50 of these grassroots refineries have been built and added about 430,000 bpd of crude capacity. They added practically no gasoline making or high sulfur crude oil capability to industry totals."

There were additional programs to subsidize the small refiner such as small business loans, exemption from pollution control standards and set-aside programs. According to the DOE Small Refiner Bias: Final Report study, refineries with capacity under 30,000 bpd were too small to take advantage of economies of scale. This report concluded that there were "substantial economies of scale in the construction and operation of sophisticated refining equipment." In spite of the economic disadvantages of small refineries, the subsidy "was sufficient to support profitable operation at that level." Over 60 of the refineries to come onstream during this period had capacities of less than 30,000 bpd. The 1981 API report, The Mandatory Petroleum Price and Allocation Regulations: A History and Analysis, summed this up well. "In most cases, small refineries tend to operate most profitably (under the subsidies) when designed to operate on low-sulfur crude oil and to produce large quantities of products such as asphalt, residual oil and kerosene, and relatively little of those products, such as lead free gasoline, required by consumers. Accordingly, most new refinery capacity brought onstream after the adoption of the small refiner subsidies, was in the form of small refineries designed to operate on low-sulfur crude and to produce a relatively undesirable slate of products. The small refiner subsidies created additional refining capacity ill-suited to meet market demand for products..."

In summary, on the supply side, COEP and SRB encouraged the construction of small inefficient refineries and subsidized existing small inefficient refineries. It also encouraged the importation of more foreign oil by effectively lowering its price, thereby increasing our dependence on OPEC and the transfer of wealth to these countries.

So as can easily be seen, numerous small inefficient refineries came into being prior to 1981 in response to government subsidies and many inefficient refiners, who might have otherwise gone out of business, were kept viable by these programs. Of the 101 refineries shut down since 1981, 54 were opened during the Crude Oil Entitlements Program. Eighty-eight percent of these refineries are under 50,000 bpd and were too small to benefit from economies of scale. Also, 56 percent had no downstream capacity. If one eliminates all those refineries which: (A) had no downstream capacity; (B) opened during the period of government subsidies; or (C) were too small to operate efficiently (under 50,000 bpd), then this leaves only 11 refineries whose closing must be explained through alternative reasoning.

The supply side incentives of government subsidization explain the growth in the numbers of small refiners during the control period and their subsequent demise after subsidies were removed. In addition to these forces, other equally powerful forces were at work in the economy which began to lower demand for petroleum products in the face of growing capacity to supply.

Demand for petroleum products peaked in 1978 at 18.85 million bpd. Last year was the first time since 1978 that petroleum demand has reversed its downward trend. While demand was falling, however, government subsidies were still in place until 1981, and this made supply unresponsive to falling demand.

In a competitive environment, as demand fell relative to supply, marginally efficient refiners would be forced out of the industry. This would result in a contraction of supply, bringing supply into line with demand, and the closure of marginally efficient refining capacity. Due to the government intervention, this process was impeded.

Government intervention, not imports, destroyed the marketplace. Government subsidies, not imports, encouraged the growth of small inefficient refiners and kept many inefficient refineries, which otherwise would have closed, in business. The increase in refineries was not justified by the changing demand patterns and, consequently, when government controls were ended and the market reacted to the massive price increases of the Iranian supply disruption, these inefficient and marginally efficient refiners began to close. These are the major factors responsible for the industry restructuring.

U.S. REFINING CAPACITY

Domestic refining capacity can be defined two ways. Currently, most persons tend to speak in terms of crude distillation capacity measured in barrels per calendar day. In that case, EIA's latest Weekly Petroleum Status Report estimates that there is approximately 15.7 million bpd of operable refining capacity. This represents a decline from the peak capacity of 18.62 million bpd in 1981. Currently, U.S. demand for petroleum products is 15.2 million bpd.

However, if capacity is defined as the ability to produce the products which are demanded, then a better measure would be downstream capacity, which tracks refining's ability to produce light end products. This capacity is comprised of fresh feed cataytlic cracking, catalytic reforming, hydrocracking and alkylation. In 1979, the industry had only 10.58 million bpd of this capacity or 62 percent of total crude distillation capacity. As of the first of this year, total crude distillation capacity had fallen to 15.7 million bpd while downstream capacity had risen to 10.95 million bpd or 70 percent of total capacity.

The market seems to be functioning properly now. Since 1981, capacity utilization has been increasing and the latest EIA estimates place it at around 81 percent. The optimum refinery utilization rates lie between 80 and 90 percent.

There are still many small, inefficient refiners with little or no capacity to produce light end products. To the extent that the market favors light end products, continuing pressure will be put upon these refineries. There is currently an excess of the wrong type of capacity as discussed above. However, the industry is responding. The Oil and Gas Journal's 1985 annual Construction Report shows more downstream capacity is being built. See Attachment II.

There are still a great many areas where cost cutting can occur and if refiners are hesitant to take these steps then they will suffer. A recent Oil & Gas Journal article (July 29, 1985) outlined many of these areas of improvement. Quaker State Oil has recently converted to using coal to power its refinery and they estimate this will save $4 million dollars per year. If that refinery operates at 85 percent of capacity, this new measure would increase refining margins by approximately $1.03 per barrel. In another move, Sun's Tulsa refinery saved $8-10 million a year through renegotiating its purchased gas costs with the local distribution company. These are but a few of the ways that domestic refiners could and should reduce costs. According to Peter Killen of Wright, Killen & Feldman Inc., most of the energy efficiency projects have yet to be undertaken by refiner.

THE ROLE OF REFINED PRODUCT IMPORTS IN MEETING DOMESTIC DEMAND FOR PETROLEUM PRODUCTS

Last year, Americans consumed on average 15.7 million barrels of petroleum products per day. Of this total, 1.979 million bpd, or 12.6 percent, were imported as refined petroleum products. Another 3.402 million bpd were imported as crude oil. Figure 1 below shows net imports of petroleum (crude oil and products) by selected countries.

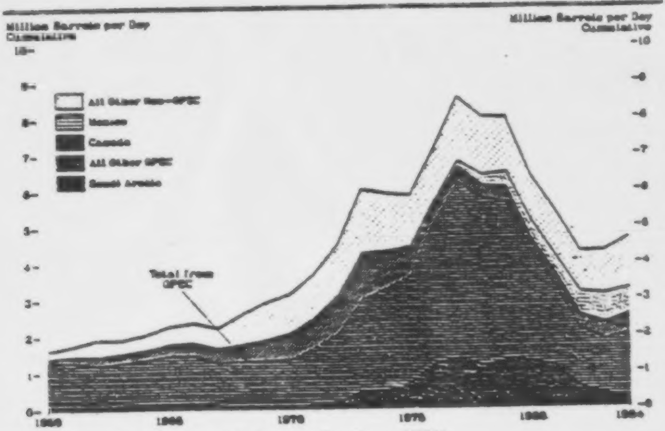


Figure 1. (Source: EIA Annual Energy Review, 1984)

It is quite evident that this country depends less on foreign petroleum than during the 1970s. During the 1960s, imports from OPEC nations accounted for an average of 11.6 percent of total consumption. During the 1970s, OPEC imports accounted for 21.5 percent of consumption. In 1984, only 12.8 percent of consumption was supplied by imports from OPEC nations. Imports from Arab OPEC nations accounted for 5.1 percent of consumption last year as opposed to an average of 9.1 percent during the 1970s. Table 5 shows imports only by selected country. It is clear that Arab OPEC nations no longer constitute a major source of petroleum. (See Table 5.)

TABLE 5
IMPORTS OF CRUDE OIL AND REFINED PRODUCTS
BY SELECTED AREA OR COUNTRY
(000's BPD)

	ARAB OPEC	CANADA	MEXICO	TOTAL NON OPEC	TOTAL IMPORTS
1973	915	1,325	16	3,263	6,256
1974	752	1,070	8	2,832	6,112
1975	1,383	846	71	2,454	6,056
1976	2,424	599	87	2,247	7,313
1977	3,185	517	179	2,614	8,807
1978	2,963	467	318	2,613	8,363
1979	3,056	538	439	2,819	8,456
1980	2,551	455	533	2,609	6,909
1981	1,848	447	522	2,672	5,996
1982	854	482	685	2,968	5,113
1983	632	547	826	3,189	5,051
1984	809	629	739	3,358	5,381

Source: December 1984 Monthly Energy Review

In 1984 net imports of refined products were 9.2 percent of total consumption. While this does represent an increase from 1983, it is far below those levels established in the 1970s. As total net imports decrease in their importance of satisfying domestic demand, the relative mix of imports has shifted. In the early 1970s imports comprised over 60 percent of residual fuel oil consumption, whereas gasoline imports accounted for between 1.9 percent and 3.1 percent. In 1984 imports of residual fuel oil satisfied less than 50 percent of total resid consumption and gasoline imports accounted for 4.4 percent of domestic consumption. (See Table 6.)

TABLE 6
IMPORTS OF SELECTED PRODUCTS
AS A PERCENT OF TOTAL PRODUCT CONSUMPTION

	FINISHED MOTOR GASOLINE	DISTILLATE FUEL OIL	RESIDUAL FUEL OIL	JET FUEL	LPG	ALL OTHER PRODUCT
1973	2.0	12.7	65.7	20.0	9.1	13.1
1974	3.1	9.8	60.1	16.4	8.7	12.6
1975	2.8	5.4	49.7	13.3	8.4	7.2
1976	1.9	4.7	50.5	7.7	9.3	5.9
1977	3.0	7.5	44.3	7.2	11.3	5.5
1978	2.6	5.0	44.7	8.1	8.7	3.2
1979	2.6	5.8	40.8	7.2	13.6	4.4
1980	2.1	5.0	37.4	7.5	14.7	5.1
1981	2.4	6.1	38.3	3.8	16.6	9.0
1982	3.0	3.5	45.1	2.9	12.2	16.3
1983	3.7	6.5	49.2	2.8	12.6	19.6
1984	4.4	9.5	49.6	4.8	12.3	24.0

Imports of refined products, of crude oil, or both, are below historical levels in both the aggregate level of imports and the percentage of domestic consumption that they satisfy. We have also seen a shift away from an unstable area, from Arab OPEC nations, to allies and areas closer to direct American influence. In these respects, the United States as become more secure, not less.

At present, operable domestic capacity is about 15.71 million bpd, while demand is currently running at 15.46 million bpd. There is still sufficient refining capacity to meet anticipated demand. The situation is quite reversed from earlier years. From 1960 to 1979, demand was greater than capacity in all but two years. Over the period 1970 to 1979, demand averaged 16.98 million bpd while refining capacity averaged 14.73 million bpd. In other words, it was necessary to import refined products and imported refined products claimed a greater share of domestic demand than they currently do.

Since 1980, demand has averaged 15.87 million bpd, while capacity has averaged 17.51 million bpd. If there is a relationship between imports of refined products, domestic capacity and national security, then our national security was in far more jeopardy before 1980 than it is today.

IS THERE ANY EVIDENCE THAT FOREIGN REFINERS ARE "DUMPING" OR COMPETING UNFAIRLY?

In May of this year, the U.S. International Trade Commission released a study, No. 332-202, on this issue. The ITC study does not conclude that all foreign governments are subsidizing their refineries. This is important because the study only analyzes five countries. Since public concern is really over OPEC export refineries, it is useful to examine the findings of the ITC relative to Saudi Arabia.

The ITC study (p.87) presents a netback analysis to determine the price of Saudi crude oil, which they determine is $28.35 a barrel. The study then states that, "The difference between $28.35 and the true Saudi cost would be the amount of price advantage enjoyed by Saudi refiners when compared with U.S. refiners." They do not determine the true cost of Saudi crude. It could simply be that Saudi officials sell the crude oil to their refiners at spot market prices or at official OPEC prices. The ITC study concludes that even if the Saudis did sell the crude oil to themselves at the official OPEC price, their products would still be competitive in world markets. The study says: "However, it is probable that Saudi produced petroleum products would be price competitive in the international marketplace regardless of domestic feedstock and fuel cost advantages" (page 87).

Many will argue that the true Saudi cost is the cost of production, which the ITC study states is between $3 and $6 a barrel. Following that line of logic, it can also be argued that vertically integrated American oil companies subsidize their refining operations. This is something that independent, non-integrated refiners have claimed for some time. According to the EIA's Financial Reporting Service, the cost to the FRS companies of producing oil was $7.37 per barrel in 1983. Following the logic of the ITC study, this means that the difference between $7.37 per barrel and the U.S. refiners acquisition cost of crude oil, $28.99 in 1983, is the amount by which the major oil companies subsidize their refining operations.

If one accepts this reasoning, then a whole new series of questions is raised. It translates into saying that while the Saudis subsidize their refineries, they are simply following the practice of the major American oil companies, which for years have been subsidizing their own downstream operations. The major oil companies and many economists would not accept this line of reasoning.

By selling the crude oil to themselves lower than what they could sell it for on the outside market, they lose money. They forego the profits that they could have earned if the oil was sold to a third party. Some persons have argued that refining is a way of getting around OPEC's quotas on crude oil, and therefore, that the Saudis would sell themselves the oil at any price simply to increase revenues. Again, this has the effect of lowering the future stream of earnings from Saudi oil. That's something the Saudis are probably not ready to do. Kuwait has the same problem.

There are some other problems with the ITC study. For example, the study uses the domestic prices of refined products to determine a netback cost of crude to the foreign refiners. In some instances, Mexico for example, the price of domestic refined products is lower than the cost of producing these products, if the official Mexican crude oil price is used. This leads ITC to conclude that Mexican refiners receive crude oil at lower than official prices. Simply because the Mexican government chooses to subsidize domestic energy consumption does not mean that they sell crude oil from their refineries at lower than official prices. To do so would give refiners incorrect signals. Regardless of whether they subsidize domestic refined product prices at the retail level or not, they would still want their refineries to be as efficient as possible and that requires correct input price signals.

To date, PMAA has seen no evidence that refined products are being dumped upon our shores or that foreign refiners are competing unfairly. This analysis is not to suggest that many currently efficient domestic refiners have not faced enormous hardships in today's highly competitive market. It merely points out that the decline in the domestic refining industry, at least up to this point, has had virtually nothing to do with the level of refined product imports. Attachment III is a recent editorial from the New York Times which makes this point very well.

Since our members derive their product from the domestic refining industry, we know that it is currently facing enormous problems. Many of these problems are prompted by a wide range of factors, including declining or static consumer demand patterns and continually falling prices. This has led to fierce competition as refiners try to divide an even smaller marketplace pie.

As we have seen by the financial performance of the refining industry in the second quarter of this year, the worst may be over. Executives of Ashland Oil, one of the nation's largest independent refiners, told Wall Street analysts recently that their company expected to prosper in 1985 for several reasons -- one of which was an expected stabilization of crude oil prices followed by a more normal price spread between crude and refined product. Ashland's Chairman and Chief Operating Officer, John R. Hall, was quoted as saying the refining business, over the long term, "...will make good money 10 out of 12 years." (See Attachment IV) This prediction has proven valid in general industry terms.

Thus far it has been shown that there were numerous forces at work which reversed a trend towards fewer domestic refineries. When these forces were removed and the market was allowed to freely interact with the forces of supply and demand, both the number and crude distillation capacity of domestic refineries declined. Capacity declined nearly 3 million bpd while imports of refined product increased less than 500,000 bpd.

Furthermore, this nation does not rely on Arab OPEC nations for the bulk of our refined product imports and our dependence on OPEC has significantly fallen.

We are far less dependent upon these nations than in previous years. America now relies upon more stable and traditional allies for a greater share of our energy needs, and this greatly reduces our vulnerability to an oil supply disruption. The top five foreign suppliers of finished motor gasoline in 1984 were: Venezuela, the U.S. Virgin Islands, Netherlands, Brazil, and Canada. The top five foreign suppliers of gasoline blendables were: China, Romania, Mexico, the United Arab Emirates and Venezuela. Our ability to produce the light end products demanded has actually risen and is a better measure of the state of the domestic refining industry. It can safely be said that imports of refined petroleum products have had little, or nothing, to do with the closure of domestic refineries since 1981.

FUTURE OUTLOOK

A considerable amount of attention has focussed on what impact future refined product imports will have on the domestic market. Given the success of various petroleum industry harbingers in the past, it is probably unwise to base current major policy decisions on what might or might not happen in the future. Predictions by "experts" in the past about what was going to happen in the oil industry in the future has led to unwise investment decisions in a number of areas premised on excessively high crude oil prices. This, in turn, has led to economic hardship for all aspects of the petroleum industry and several related industries, including banking, drilling and synthetic fuels.

While the uncertainty of future developments should not dictate current policy decisions, there are factors which exist which warrant concern and monitoring. One one of these factors is the increased amount of refining capacity being built in the Middle East.

Forecasts by the International Energy Agency (IEA) show that OPEC nations, including Venezuela, will have refinery output of 5.95 million barrels per day in 1986; demand of 3.6 million barrels; and an exportable surplus of 2.35 million barrels per day. The East-West Center Resource Systems Institute, in a DOE-commissioned study entitled, "The Changing Structure of the World Refining Industry: Implications for U.S. Energy Security," expects total OPEC and Gulf Cooperation Council nations' refining capacity to rise to 7.7 million barrels destined for export. Saudi Arabia is expected to have the greatest share of the exports, 29.6 percent, followed by Venezuela, 22.8 percent, and Kuwait, 15.5 percent.

The study estimated that approximately 610, 000 barrels per day of gasoline and naptha would be for export. Approximately 40,000 barrels per day of that total stems from Iran and Iraq and is thus subject to question.

The major question is, "Where are these Persian Gulf exports going?" If all went to the U.S. markets, assuming consumption levels remain static, then that would represent 9 percent of the domestic market. Many experts consider it highly unlikely that the U.S. will receive the bulk of these exports and in fact predict they will go to Europe or the Far East, further eroding the refining centers in that part of the world.

The East-West Center points out that primarily because of high transportation cost, the U.S. is "...always the least profitable market for Persian Gulf refiners." The East-West Center Study further states that potential U.S. imports from Persian Gulf refineries rests mostly on Saudi Arabia's Yanbu refinery which could be the source for 50,000 to 60,000 barrels per day of unleaded gasoline in the U.S. market. This source of unleaded product may be a critical factor in meeting U.S. demand for unleaded which is expected to accompany the lead phasedown program recently announced by EPA. The study concludes that Persian Gulf imports of gasoline "...can not possibly be regarded as endangering the U.S. national security." A summary of the East-West Center Study included in the March 6, 1985, edition of Energy Detente, is attached (see Attachment V).

Another scenario outlined by some refiners is that the U.S. will be awash in imported gasoline from the Persian Gulf. The concern seems to be that the Persian Gulf nations would use U.S. markets as a dumping ground either as a means to eliminate the competition provided by U.S. refiners, or to circumvent self-imposed production quotas as a means of maintaining higher crude oil prices. There is also a fear that quotas or other restrictions imposed by European or Far Eastern countries would make the U.S. market the only one available for these Persian Gulf imports.

Whether the scenario outlined by the East-West Center for the one feared by many domestic refiners materializes will only be known as events unfold. Clearly, marketers will be carefully watching these events unfold. Clearly, marketers will be carefully watching these events and assessing their impacts. A recent study conducted by PMAA on marketing trends over the next 10 years reveals a high level of interest in the role imports will play over that period. While nearly half of the respondents thought imports would help some marketers and hurt others, only one in five marketers thought imports jeopardized national security.

The situation should be carefully monitored and if national security is threatened or if imports begin to be the source of a competitive imbalance in the domestic market, then appropriate action may be necessary at that time.

CONCLUSIONS

The Petroleum Marketers Association of America, based on currently available data, opposes any restrictions on crude oil or refined product imports. This opposition is based on several conclusions.

- The overall level of product imports is well below historic levels;
- The levels of imported gasoline and middle distillate, while up, do not constitute a serious penetration into the U.S. market;
- The sources of the imports are not unstable political countries in the Middle East, but traditional U.S. allies like Canada and the Netherlands. Less than 2 percent of the product imports come from the Persian Gulf nations;

- An import tax will increase inflation, unemployment, and jeopardize the economic recovery this nation is experiencing; and
- An import tax may necessitate the creation of another regulatory bureaucracy and cause more competitive imbalances than it is designed to correct.
- There is no evidence to suggest that foreign refiners are dumping gasoline on our shores or that they are selling below their costs.

However, PMAA strongly recommends that future developments be carefully monitored and if national security is threatened by a rising tide of imports which would again make the country vulnerable to an embargo or a supply cut off, or if imports are found to be the source of competitive imbalances in the market, then appropriate action may be necessary.

Thank you for the opportunity to submit this statement and the Petroleum Marketers Association of America will be happy to respond to any questions members of the Subcommittee may have.

ATTACHMENT I

MEMBERS OF THE PETROLEUM MARKETERS ASSOCIATION OF AMERICA

The Petroleum Marketers Association of America represents the independent petroleum marketers who are members of these state and regional trade associations:

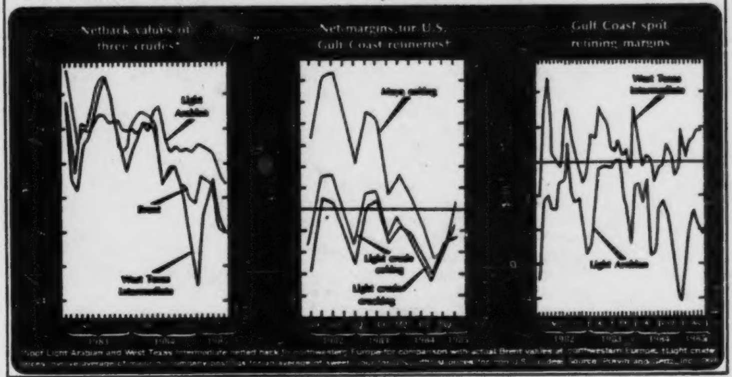
- Alabama Oilmen's Association
- Arizona Petroleum Marketers Association
- Arkansas Oil Marketers Association, Inc.
- California Independent Oil Marketers Association
- Colorado Petroleum Marketers Association
- Independent Connecticut Petroleum Association
- Florida Petroleum Marketers Association
- Georgia Oilmen's Association
- Idaho Oil Marketers Association
- Illinois Petroleum Marketers Association
- Indiana Oil Marketers Association, Inc.
- Intermountain Oil Marketers Association
- Petroleum Marketers of Iowa
- Kansas Oil Marketers Association
- Kentucky Petroleum Marketers Association
- Louisiana Oil Marketers Association
- Michigan Petroleum Association
- Mid-Atlantic Petroleum Distributors Association, Inc.
- Mississippi Petroleum Marketers Association
- Missouri Oil Jobbers Association
- Montana Chapter, Intermountain Oil Marketers Association
- Nebraska Petroleum Marketers, Inc.
- Independent Oilmen's Association of New England
- Fuel Merchants Association of New Jersey
- New Mexico Petroleum Marketers Association
- Empire State Petroleum Association
- North Carolina Petroleum Marketers Association
- Northwest Petroleum Association
- Ohio Petroleum Marketers Association
- Oklahoma Oil Marketers Association
- Oregon Petroleum Marketers Association
- Pennsylvania Petroleum Association, Inc.
- South Carolina Oil Jobbers Association
- South Dakota Petroleum Marketers Association
- Tennessee Oil Marketers Association
- Texas Oil Marketers Association
- Virginia Petroleum Jobbers Association
- Washington Petroleum Marketers Association
- West Virginia Petroleum Marketers Association
- Oil Jobbers of Wisconsin, Inc.
- Wyoming Petroleum Marketers Association

The Petroleum Marketers Association of America is located at 1120 Vermont Avenue, N.W., Suite 1130, Washington, D.C. 20005. Telephone (202) 331-1198.

ATTACHMENT II

NEWS

U.S. refiners' considerations in crude, process choices



*Spot Light Arabian and West Texas Intermediate netted back to northwestern Europe for comparison with actual Brent values at northwestern Europe. †Light crude [illegible] Source: Purvin and Gertz, Inc.

Feedstock, product versatility the key to U.S. refinery profits

Michael Obel, Staff Writer

Refiners that report profits at yearend 1985 in the U.S. will do so largely because they're flexible in buying feedstocks and in producing the most valuable products.

Versatility, rather than energy efficiency or low operating costs, is becoming the hallmark of a profitable refiner.

Failure to cut costs or hike efficiency may keep a refiner from reporting a profit, but such efforts alone aren't likely to be enough.

That's because nearly all U.S. refiners—and neither present nor projected demand requires all their capacity—are trimming labor and unit operating costs and cutting process heat losses.

"Everybody has plucked the low hanging fruit," says a major company's vice-president of refining operations. "Now we have to reach for the higher fruit."

That will be tough to do because the U.S. refining/marketing slump is persistent.

"I don't remember a valley that was so deep or so long," says Ron Hall, president of Citgo Petroleum Corp.

For some refiners the valley probably will be a few years longer and several million dollars deeper.

Meantime, process engineers continue to pursue versatility and efficiency. When all possible operational moves have been made, refiners can still seek wider margins via mergers or reductions in capacity.

Among the most helpful developments has been this year's reduction in motor gasoline inventories. Refiners are no longer producing excess gasoline and selling it at distress prices, so margins have improved.

Also helping to boost margins have been improved capacity utilization rates. Attrition and corporate moves that allow rationalization of existing units are helping.

Oil & Gas Journal calculates that the average U.S. refinery utilization rate for 4 weeks ending July 19 was 81.2%. The rate was 76.1% for the same period last year.

Most refiners whose utilization rates and margins exceed the national average made bottoms upgrading investments.

Feedstock acquisition. Feedstocks, about 80% of production costs, are a primary target for cost reduction. It's a buyer's market.

Recent attention to crude oil price postings has reversed roles of producers and refiners, says a senior process engineer with 25 years of experience at a major oil company.

"With crude being in such tremendous oversupply, the refining end of the business is saying, 'We're not going to pay you any more than we can pay and get a good profit margin.'"

One way to cut feedstock acquisition costs is by developing crude posting mechanisms that are highly sensitive to changes in the spot market.

Conoco Inc., for example, began using a crude posting system late last year that allows it to quickly realize any advantage from declines in the spot price of crude.

Ken Miller, an analyst with Purvin & Gertz, Houston, notes that a refiner's posting policy often reflects its size and upstream interests.

"We're seeing a sharp change in crude pricing philosophies," says Miller. "The independents and what I would call the minimajors are moving to a position that's much more responsive to the spot market.

"The majors are holding their posted prices stable in the interest of exploration and production profits, whereas the domestic refiners that have less equity crude interests are tending to move to prices that are in closer relation to the market."

Citgo, with no equity crude to charge to its 320,000 b/cd Lake Charles, La., refinery, obtains about half its crude on the spot market and the remainder via contract. Crude represents about 75% of Citgo's feedstock.

To reduce Citgo's crude acquisition costs, Hall has been trying to get some of his foreign suppliers to accept contracts with flexible prices that allow both parties to "share in the good times and the bad times."

Hall's efforts have met with "modest success" among producers outside the Organization of Petroleum Exporting Countries, he says.

Equity v. spot crudes. Besides sharpening their crude posting mechanisms, refiners are finding ways to switch quickly between equity and spot crude, depending on which offers the best short term deal.

Phillips Petroleum Co. produces about as much crude as it processes in its refineries worldwide.

"Some of our equity crude we sell foreign, and then we buy domestically or exchange some of that foreign equity crude for domestic crude," says Jack Hudkins, manager of refining operations and planning. "It's pretty well in balance with our own company crude."

The balance, Hudkins says, "lets us buy crude and sell product on an ever changing basis, depending on the price of crude and price of product."

Texaco U.S.A. Inc. also is scouring the market for the best deal on crudes.

"If we can sell domestic equity crude and buy in its place a crude that will give us an incremental benefit, we'll do it," says Richard R. Dickinson, senior vice-president for manufacturing, marketing, supply, and distribution. "We look at all crudes on a marginal basis."

The Getty Oil Co. acquisition has increased the amount of domestic equity crude available to Texaco. Because domestic crude generally is more economical than imported oil, the Getty deal largely has improved Texaco's margins.

A similar policy is being pursued at Mobil Oil Corp., one of the four partners in Arabian American Oil Co.

"We are making sure that our procedures and our access to crudes has improved and that our ability to handle crude has improved," says Paul J. Hoenmans, Mobil executive vice-president for refining.

One of his goals has been to increase Mobil's ability to use various attractive crudes on a short term basis. The company expects to run more spot crude this year than last.

"We've adjusted our system so that it can run less Arab crude. We've done a lot of work to make sure that other crudes can be used."

Sohio Oil Co. Pres. John G. McDonald also notes the importance of being able to respond to changes in crude oil economics.

"Our Alaskan crude production base allows us to exchange for the most economic crudes to run in our system in a very volatile market," McDonald says. "It gives us a better choice in raw materials selection and, therefore, the opportunity to operate our system more economically than can many other domestic refiners."

Cutting operating costs. Making the best possible deal on feedstocks is only the first cost reduction opportunity. Operating costs usually can be cut, although they vary widely among refiners.

W.T. McCollough, manager of Sun Refining & Marketing Co.'s 85,000 b/cd Tulsa refinery, said an operating cost cut has been the biggest contributor to improved margins at his refinery.

Sun has allowed the nonunion refinery's work force to shrink, almost totally by attrition. About 3 years ago the facility employed 800 persons. Today the number is 635, and McCullough expects it to decline further.

Finding less-costly fuel also is improving margins.

Sun's Tulsa refinery saved $8-10 million/year following renegotiation of a gas supply deal with a local utility. The result is a 20% lower fuel bill, McCullough says. Other refiners are cutting operating costs by improving energy efficiency. Although U.S. refiners as a group have sought to do that for years, success varies.

"You might think that by this time most of the energy efficiency projects had been done," says Peter Killen of Wright, Killen & Feldman Inc., Houston. "But that's not been our experience."

Shell Oil Co., whose $223 million of net refining income last year exceeded that of any other U.S. refiner, attributed part of its success to efforts that "identify and implement innovative cost reduction and efficiency measures."

By yearend 1984, Shell was using 24% less energy per unit of output in its oil products segment than it was in 1972. By yearend 1986, Shell is aiming to have cut consumption by a total of 29%.

Conoco's refining segment is consuming 30% less energy per barrel of crude refined since 1972, says Archie Dunham, Conoco's executive vice-president for North American petroleum products.

"The emphasis that is taking place today in every downstream boardroom is better cost control," Dunham says.

How they did it. Conoco has pursued a variety of projects to cut overhead and operating costs. One task was replacing less efficient furnaces, says Irv Wagner, Conoco's vice-president and general manager of North American refining.

Conoco is using instruments and computer controls more, reducing excess air to furnaces, using preheaters, and trying to improve steam balances.

Also the company, which has 390,000 b/cd of U.S. crude capacity, is pursuing heat exchange projects and waste heat recovery projects using cat cracker generator gases.

Conoco's total refining and marketing overhead and operating costs this year will be essentially equal to those

Coal to cut steam generation costs for Quaker State

Quaker State Oil Refining Corp. expects to save $4 million/year at its 12,500 b/d Newell, W.Va., refinery by using coal instead of No. 6 fuel oil to generate steam.

The company by early August will begin generating steam with three 120,000 lb/hr fluidized bed boilers manufactured by Keeler/Dorr-Oliver Boiler Co.

Burning coal to improve refinery margins underscores the extent to which coal is beating oil in the U.S. bulk fuel market, a trend documented by the Energy Information Administration (OGJ, Apr. 22, p. 41).

To calculate savings, Quaker State assumes that coal provides about 12,500 BTU/lb. then uses a laid-in cost of $36/ton for coal and adds $3-4/ton for limestone to neutralize sulfur emissions.

"For a small, independent, lube refinery, $4 million is a lot of bucks," said W.C. Helsley, Quaker State vice-president.

The Newell refinery has 3,600 b/sd of lube capacity.

For Keeler/Dorr-Oliver Boiler, the Sohio Chemicals & Industrial Products Co. unit that makes the boilers, the Quaker State order is the second refinery customer it has had for boilers in less than a year.

Last fall Keeler/Dorr-Oliver Boiler installed a bubbling bed boiler to generate 70,000 lb/hr of steam at the 168,000 b/cd Lima, Ohio, refinery owned by Standard Oil Co. (Ohio).

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of 1984, yet Conoco will process 17,000 b/d more in 1985 than it did last year, Dunham said.

"This year we're looking at running 340,000 b/d of crude as opposed to 323,000 b/d last year."

Phillips upgraded waste heat boilers at its 100,000 b/cd Borger, Tex., refinery to burn carbon monoxide from cat cracker flue gas, says Hudkins. Further, Phillips has recovered sensible heat from cat cracker flue gas by using improved heat exchangers.

With those efficiency measures, Phillips hopes to charge 7,000-8,000 b/d more than it did last year.

Mobil's Hoenmans reports that his company has opted primarily for "quick debottlenecking operations," such as tankage additions and small piping modifications.

Refiners are using scheduled turnarounds to install equipment that allows a plant to run at higher severity or greater efficiency.

During an April turnaround at Chevron U.S.A.'s 76,000 b/cd El Paso, Tex., refinery, workers installed primary and secondary diplegs in the regenerator. Workers also installed a perifial seal in the regenerator.

The diplegs and seal were designed to operate at temperatures as high as 1,450° F.

During the shutdown, Chevron also did a major catalyst hopper piping job that automates catalyst loading and unloading.

Cutting inventories. U.S. refiners are maintaining tighter control on inventories.

Average motor gasoline stocks for the year through June 14 were 14.9% less than they were during the same period in 1984, when stocks averaged 292.66 million bbl.

Conoco's Dunham says that since 1980 the company has been able to reduce its U.S. crude and product inventory by 40%.

"We're looking at continuing the effort to reduce inventories. For year-end 1985 our inventories will be the lowest in the company's history."

Phillips says its inventory goals and policies will remain largely unchanged from those of the last 2 years.

Purvin & Gertz' Miller says stock drawdowns have helped Midwest and Rocky Mountain refiners enjoy better margins than usual during the second and early third quarters.

Products prices in the Midwest have been higher than those in the Gulf of Mexico, he says. "Refiners in the Midwest have been running low inventories, and that's keeping the various pipelines to the Rocky Mountains and Midwest full.

"On a current basis, the Midwest margins are quite good right now relative to the gulf. U.S. gasoline inventories were about 38 million bbl lower in mid-June than the same time last year."

Sun's McCollough found inventory reductions made some of his firm's tankage unnecessary.

"About a year ago we had an 80,000 bbl crude tank out of service for repair. It's still out of service, and it hasn't hurt us," he says.

Process investments. Most process investments stem from efforts to reach the most profitable product markets: unleaded gasolines, middle distillates, and lubricants.

Saber Refining Co., Corpus Christi, Tex., is building a methyl tertiary butyl ether (MTBE) plant, which will begin producing 1,200-1,400 b/d of product for internal use by next quarter.

Saber will increase severity in its heavy oil cracking unit and charge the additional isobutylene to the MTBE unit.

The company also is reviewing a project to debottleneck its Dimersol unit.

Amoco Oil Co. plans to spend $150 million during 1984-86 to boost its octane capacity. In February, it converted a 73,000 b/cd catalytic reformer at its 350,000 b/cd Whiting, Ind., refinery into a 17,500 b/d isomerization unit.

The company expects to finish converting a 152,000 b/cd catalytic reforming unit at its 415,000 b/cd Texas City, Tex., refinery into a 20,000 b/d isomerization unit this summer. Upon completion, the unit will be the largest in the world.

Amoco also is building a 22,000 b/d alkylation unit at Texas City, with completion set for late 1986, and is erecting a 400 b/d MTBE plant at its 51,000 b/cd Yorktown, Va., refinery. Completion is set for late 1985.

At Sun's Tulsa refinery, workers are installing naphtha jet fuel capacity, a move that will allow engineers to use a low octane UDEX raffinate stream to make a more valuable product. The unit will be on stream in October, by which time Sun hopes to have a buyer for the military grade jet fuel.

Sun also plans to debottleneck its 6,000 b/cd alkylation unit. The project, to be completed by early 1987, will result in a higher octane alkylate from the hydrofluoric acid based unit.

Phillips is considering a 25,000 b/d isomerization unit for its 25,000 b/cd Woods Cross, Utah, refinery.

Run gear differently. Not all refiners are going after the most valuable product by making process investments. Some are finding ways to use existing hardware, and others already have made large investments.

Paul Ferrall, manager of manufacturing and crude supply services for ARCO Petroleum Products Co., says, "The things we have been doing recently have been marginal.

"We aren't planning to spend a lot of money. Most of what we would be spending for capital would be for maintaining units, for small energy conservation. We've put air preheaters on furnaces, new exchangers, or additional ones. We've changed catalysts in our FCC units and reformers. But it's not going to take you from losing money to making money.

"We've done the large energy conservation projects, and our biggest costs now are for dealing with new environmental controls. If I were a refiner, I wouldn't be spending any large amounts."

Victor E. Pierce, manager of the refinery process division of M. W. Kellogg Co., explains how some refiners are increasing cat cracker feeds and decreasing the output of low-value fuel oil.

"Traditionally there has been this design point that people used in the design of their vacuum unit to maximize the amount of feed to their cat cracking units.

"Typically this was about a 1,050° F. cut point used on the vacuum unit design. This then set the amount of vacuum gas oil that was produced on the unit, which then provided the cat cracker feed.

"Now because of the desire to dig more deeply into the bottom of the barrel, they have been more venturesome to go to higher temperatures, to 1,125° F., which then means that you have a more severe operation on the vacuum operation for the purpose of satisfying cat cracker feed."

Options numerous. Roger VanDriesen, vice-president of Lummus Crest Inc., says a refiner's range of options in altering operations is wide.

He notes that some refiners are "installing mild hydrocracking using gas oil hydrotreaters that have some idle capacity."

Such an approach requires a "catalyst that is more rugged than hydrotreater catalysts," but it would allow the refiner to produce more middle distillates and less gas oil.

"This type of conversion started 4 years ago in Europe and now has been done to about 60% of Europe's gas oil hydrotreating capacity. It resulted when the fuel oil market in Europe began to dry up, which caused the utility for gas oil hydrotreaters to fall somewhat."

As another advantage of the process, VanDriesen notes that a refiner can do as much or as little as desired.

"You could take the existing catalyst and just raise the temperature. Or you could change the catalyst and then raise the temperature, or you could change the catalyst and debottleneck, say, to handle increased fractionation."

Although not a new technique, more refiners are charging heavier feed to their catalytic cracking units, he says.

In Tulsa, Sun engineers reduced the capacity of the fluid catalytic cracker to 28,000 b/d from 30,000 b/d by charging undervalued heavy gas oil instead of selling it.

In Corpus Christi, Saber is planning a switch to a higher octane catalyst for its HOC unit by yearend.

Restructuring affects margins. Process engineers who make the operational changes to improve margins aren't the only ones affecting the bottom line.

Mergers, divestitures, and refinery shutdowns have allowed some refiners to rationalize their systems to run the most profitable feedstocks and make the most valuable products. Texaco's acquisition of Getty is one example.

The integration of the two companies "has meant a reduction in the amount of sweet crude we run and a substantial increase in the offshore high sulfur, low gravity, higher metals crudes we run. This results in the overall reduction of our crude costs by about $1.50/bbl today compared to a year ago."

Texaco's system "has a lot of flexibility to run whatever crude is cheapest," Dickinson says. "Early in the year there essentially wasn't any differential. So far this year sweet has been the cheapest to run."

He says the Getty acquisition "has allowed us to run about 90% high sulfur crudes. Today we're running about two-thirds high sulfur crudes."

The Getty deal has increased Texaco's gasoline yield. "Coupled with the upgrading of our Louisiana refinery, it has sharply reduced the amount of fuel oil we make. We've gone from making about 16% fuel oil under the pre-Getty system to about 8% today."

The marketing link. The relationship between manufacturing and marketing also affects margins.

John A. Matson, analyst with Pace Co., Houston, says refiners that are net product buyers have an advantage over net sellers.

"What you buy are the most expensive products for you to make. If you can just keep from having to make those last few barrels of your most costly product, then you buy them for less than it costs you to make it. We're just trying to find 20-30¢/bbl today.

"A net purchaser of product has more profitable opportunities to optimize his hardware than does a net seller. Of course, if everybody tries it, then it doesn't have any value."

Texaco's Dickinson also prefers a net purchase position.

"We buy and sell, but we generally find it's advantageous to maintain a net purchase position and take advantage of certain spot opportunities."

Sohio's McDonald says purchase of Gulf Oil Products Co.'s Belle Chasse, La., refinery went a long way in keeping Sohio's domestic crude production off the spot market.

"The addition of 200,000 b/d of refining capacity to Sohio's 456,000 b/d brings us in much better balance with our domestic crude production.

"This, in turn, gives us better assurance that we can always have a home for our crude in times of crude oil glut in the world. At the same time, we can be reasonably assured of crude oil supply for our refining system in times of crude shortage."

Outlook. During second quarter 1985, the historic differentials between residual oil and lighter products and between high sulfur crudes and low sulfur crudes began to be restored.

As a consequence, refiners that made upgrading investments in the early 1980s benefited.

When Saber, for example, launched its Corpus Christi upgrade project in fall 1981, it was counting on a $9/bbl differential between its residual costs and the average price of refined products to provide a 3 year payout of the firm's $500 million investment.

However, the U.K. coal strike and stockpiling of fuel oil by some Pacific Rim countries drove up the price of feedstock at the same time that gasoline prices were falling, squeezing the differential to about $2/bbl.

Then the coal strike and stockpiling ended, and the Environmental Protection Agency accelerated the gasoline lead phasedown schedule.

At the start of the third quarter, the differential between resid feedstock and average products price was $6-7/bbl.

As a result, Saber is making money and servicing its debt. But it doesn't have much company, and it's not likely to soon.

Neither ARCO's Ferrall nor Purvin & Gertz' Miller looks for a return to robust margins for several years.

Miller says, "We are not anticipating significant improvements in refining margins on average during the next several years. As a result, there are still going to be some refiners that are going to have to shut down, particularly those which do not have the capital resources to meet the lead phasedown requirements.

"We're projecting the potential of something around 1 million bbl—a decline to 14.6 million barrels—

throughout the U.S. that could be shut down over the next several years. This will result from lead phasedown and other factors.

"Part of the shutdowns will be downsizing of some of the oil companies, potentially accounting for half of that 1 million bbl decline. The rest of the reduced capacity will be shutdowns of individual plants. That 1 million bbl figure is a high side potential." It may be late 1986 before the U.S. refining business posts significant capacity declines.

Distillation capacity is expected to grow slightly to 15,683,068 b/d by first quarter 1986 from the present 15,618,968 b/d, American Petroleum Institute reports. Most of the increase will come in Alaska (OGJ, July 22, p. 51). A former senior process engineer with a major oil company says the refiner that succeeds next year must be flexible and alert.

"For the American refiner to make money, he's going to have to be darn good, very quick, and be very low cost." •

Conoco seeks to cut Ponca City costs

Conoco Inc. is looking for ways to cut about $10 million/year from operating costs at its 134,000 b/d Ponca City, Okla., refinery.

Failure could mean closing the plant, says refinery manager John L. Dimond.

Conoco didn't disclose how long it will wait for personnel to find the savings at the refinery, which has a capacity utilization rate of 97% this month. Dimond said the refinery's average utilization rate for the year will be less than 97%.

The Ponca City plant is the largest of Oklahoma's five refineries, which have a combined crude charge capacity of 374,000 b/d.

Among factors working to increase operating costs at the plant are the Environmental Protection Agency's lead phasedown rules and a proposed rate hike by Oklahoma Gas & Electric Co.

To meet lead phasedown, the refinery will increase the severity of some of its operations. There are no plans to buy oxygenates.

Ponca City's margins may start improving after October. That's when Conoco expects to place on stream a 13,000 b/d hydrotreater to handle vacuum and coker gas oil for the 45,000 b/cd fluid catalytic cracking unit.

The goal is an improvement in quality and versatility of the product slate.

NGPL voids contract take or pay obligations

Another U.S. gas transmission company has invoked force majeure clauses in wellhead purchase contracts as a means to abrogate take or pay (TOP) obligations with producers.

Natural Gas Pipeline Co. of America (NGPL) joined United Gas Pipe Line Co. and ANR Pipeline Co. this month in beginning unilateral prorata reductions in wellhead purchase volumes (OGJ, July 15, p. 65).

Other pipelines are expected to follow suit. They believe the restructuring of the gas industry constitutes force majeure and therefore excuses them from TOP obligations.

Meanwhile, a local gas distribution company in West Virginia has invoked force majeure to abrogate portions of its supply contract with Columbia Gas Transmission Corp.

NGPL's explanation. Robert F. Pasteris, assistant vice-president of NGPL's gas supply operations, told producer-suppliers in a letter the company lost as much as 600 MMcfd of market July 1.

The lost market share was due to customers switching to a lower cost gas supplier.

"This has necessitated that Natural take immediate steps to reduce its purchases of gas under its contracts to avoid operational problems and to try to avoid further escalation of these problems," Pasteris wrote.

He said NGPL effective July 1, began reducing takes below minimum take levels stipulated in wellhead purchase contracts.

"Natural intends to reduce its purchase of gas 50% below the last effective daily minimum in descending order of average contract price until the appropriate reductions have been made," he wrote.

"At this time Natural cannot predict the precise volume of gas it will be able to take in the future, but present circumstances indicate that 50% of the last effective daily minimum will be purchased under all contracts with an average price of $2.90/MMBTU or more.

"The average price at which these reductions will be made may change in the future, based on the status of Natural's markets and the ability of Natural to physically and expeditiously implement these reductions."

NGPL plans to cooperate with producers to work out special problems caused by its force majeure action.

Columbia's problems. Mountaineer Gas Co., Charleston, W.V., stopped paying demand charges to Columbia, saying take requirements in 14 year old supply contracts between the companies do not accurately reflect current market conditions and therefore constitute force majeure.

In addition, Mountaineer said, West Virginia law requires distribution companies to buy a substantial volume of their supplies through competitive sealed bids.

Through this method, Mountaineer found alternate, cheaper supplies than those available from Columbia.

Mountaineer asked the Federal Energy Regulatory Commission to declare that its use of force majeure is appropriate. The company said current sales are less than one-half the take level required by the contracts with Columbia.

Mountaineer also asked a federal judge in Charleston for $450 million in damages from Columbia, charging that the pipeline violated antitrust laws by abusing its power in the sale and transportation of gas.

Mountaineer said Columbia forced it to enter into long term contracts at high prices and takes and refused to make its system available for contract carriage. Mountaineer was acquired last year from Columbia's parent company by Allegheny & Western Corp. At that time, it operated as Columbia Gas of West Virginia Inc.

Allegheny & Western filed a securities fraud suit against Columbia's parent company, claiming that the company did not disclose prior to the sale that Columbia had filed a revised tariff that would increase by 50% the demand charges on the gas it supplies to

ATTACHMENT III

The New York Times

Founded in 1851

ADOLPH S. OCHS, Publisher 1896-1935
ARTHUR HAYS SULZBERGER, Publisher 1935-1961
ORVIL E. DRYFOOS, Publisher 1961-1963

SATURDAY, MAY 18, 1985

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The Refiners Are Coming

Though the world is awash in crude oil, the American Independent Refiners Association warns of a new era of foreign blackmail if its members are not protected against foreign competitors. The trade association, which represents only small refiners, is pressing Congress for an import quota to guarantee domestic refiners a market for a fixed percentage of their production capacity.

Smaller refiners are certainly hurting. Reduced world demand has squeezed every penny of profit out of the refining business. But gasoline imports pose no threat to American security. The proposed protection for domestic refiners would cost consumers billions and only slow the much-needed rationalization of the industry.

Refineries take a long time to plan and build. Refining capacity therefore kept growing through the 1970's, even as demand for their oil declined. A shakeout did not begin in earnest until a few years ago. Not surprisingly, the hardest-hit companies were those with smaller, less efficient facilities. Last year alone saw the closing of 28 of the 131 refineries owned by companies processing fewer than 200,000 barrels a day. By the industry's reckoning, the worst is yet to come: Saudi Arabia, Kuwait and Libya will all be opening larger and more efficient facilities in the next few years.

Does this threaten the United States with a dangerous dependence on the governments that imposed the 1974 oil embargo? Not a chance. America's functioning refineries are operating at only 75 percent of capacity; those in Europe, which supply most of our imported gasoline, are down to 70 percent. There is no risk that the developed world's refining capacity will contract below its consumption.

Indeed, the excess refining capacity has mostly damaged the oil-exporting nations. To keep their refineries in business, they have had to sell crude oil to themselves at less than the official OPEC price. American consumers are reaping the benefit in lower prices at the pump.

Even Congress could normally be expected to dismiss a call for protectionism that is so poorly justified. But the few dozen wealthy Americans who dominate independent refining have been unusually skillful at getting what they want. In the 1970's, they persuaded Congress to guarantee them a supply of crude oil at $3 a barrel less than the price paid by big, integrated oil companies. The sooner this lobby is sent packing, the safer the consumer will be.

ATTACHMENT IV

Ashland Believes It Can Pump Out Earnings Despite Uncertainties Concerning Oil Refining

HEARD ON THE STREET

By Ralph E. Winter

The outlook for Ashland Oil's largest business, which is oil refining, is highly uncertain. But the company's management wants investors to know they think the Ashland, Ky.-based concern can earn sizable profits anyway.

Indeed, Ashland has been telling its story so effectively that its stock closed yesterday at its 52-week high of 29¾. Analysts, who generally applaud Ashland's ability to make money under tough conditions, aren't looking for much more near-term appreciation.

Oil refining and marketing accounted for about two-thirds of Ashland's fiscal 1984 revenue. The problem with oil refining is that prices of gasoline, fuel oil and other refined products have been dropping because of a world-wide surplus.

The price of crude oil has declined, too, but more slowly because members of the Organization of Petroleum Exporting Countries have had some success in supporting the price. As a result, many major oil companies lost money on refining last year, but earned relatively good profits from production of crude. Ashland, which produces only 5% as much crude as it refines, doesn't have that trade-off.

Ashland earned $2.13 a share from operations in fiscal 1984, but reported a net loss because of charges for the planned sale of insurance and other businesses. Because of the uncertainty about oil prices, the company declines to make an earnings forecast for fiscal 1985.

Analysts' estimates average a net of $3.39 a share, but they caution they haven't much confidence in their forecasts, because a slight change in refining margins could result in a big move up or down in profit.

Ashland still is subject to a Securities and Exchange Commission investigation about past practices, including allegedly improper payments to obtain crude oil. Also, two former officials filed lawsuits claiming they were fired for blowing the whistle on such practices. But neither management nor analysts expect those matters to have a material financial effect.

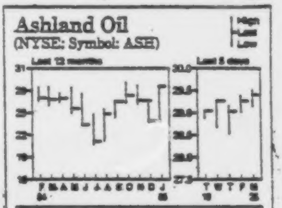
Ashland executives give four reasons why the company will prosper:

—They think crude prices will stabilize later this year at about $25 a barrel, followed by a more normal price spread between crude and refined products.

—Ashland has some advantages in refining, which enabled the company to earn a profit from refining last year when other companies didn't: efficient refineries; a good crude supply system using mainly domestic and Canadian crude; and a good customer base among independent Midwest marketers.

[illegible]

Ashland Oil
(NYSE: Symbol: ASH)



Business: Refines and markets oil. Also has interests in chemicals, and engineering and construction.

Year ended Sept. 30, 1984:
Revenue: $8.25 billion
Earnings: Net loss of $172.5 million includes after-tax charge of $264.7 million.

First quarter, Dec. 31, 1984:
Per-share earnings: 64 cents vs. 66 cents

Average daily trading volume:
67,570 shares (January)

Common shares outstanding: 28 million

are combination high-volume gasoline stations and small general stores.

—Ashland has several diversified businesses, including chemical distribution and specialty-chemical production, that will produce growing profits. Chemical sales last year topped $1.5 billion, a 25% increase from fiscal 1983, and pre-tax operating profit was $55 million, up from $633,000 in recession-hurt fiscal 1983.

The refining business over the long term "will make good money 10 out of 12 years," says John R. Hall, chairman and chief executive officer. "We can make $2 a share with refining doing nothing," he says, and his goal, which he admits "will take a few years" to reach, is to earn $5 a share from the company's nonrefining businesses.

Mr. Hall says Ashland will funnel investment cash mainly into the two opposite ends of the petroleum business, its SuperAmerica retail outlets and domestic exploration and production. The chemical division will get money for acquisitions, he adds.

SuperAmerica will get $50 million to $60 million a year, which will permit opening about 50 units annually. The 335 company-operated SuperAmerica outlets sell about 25% of the gasoline that Ashland refines.

About half of SuperAmerica's sales come from gasoline and the rest from a wide range of products beyond the bread and milk found in smaller gasoline outlets. SuperAmerica has its own brand of cigarettes, which sell about $1.50 a carton cheaper than name brands, and some stores sell liquor.

Domestic oil and gas exploration will get "about $40 million a year of risk money," Mr. Hall says, plus whatever it takes to develop the oil and gas discovered, perhaps as much as $20 million a year. That plan will be re-evaluated if oil prices drop much below $25 a barrel, he says. A development program in Nigeria ends this year, and the company hasn't

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ATTACHMENT V

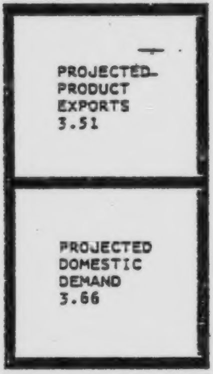
Energy Détente
VOLUME VI NUMBER 5
MARCH 6, 1985

OPEC Downstream

U.S. GASOLINE IMPORT DEPENDENCE: GOOD OR BAD?

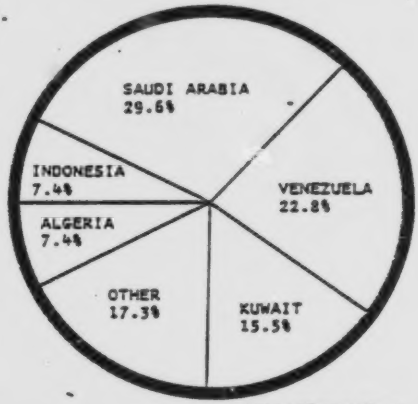
DISPOSITION OF PROJECTED 1988 REFINERY OUTPUT FROM OPEC AND GULF COOPERATION COUNCIL NATIONS

TOTAL
REFINERY OUTPUT 7.05 MM B/D.



Source: The East-West Center

PERCENT SHARES BY COUNTRY OF PROJECTED REFINED PRODUCT EXPORTS



Energy Détente Chart

INCREASING U.S. refining costs and increasing non-U.S. refining capacity make for increased U.S. reliance on imports. Debate as to whether this is in the public interest is heating up, as fears mount that OPEC downstream expansion will put U.S. refiners out of business. In this issue, we access papers from experts on both sides of an issue looming on the near horizon.

Dan Lundberg, APR, Publisher
Trilby Lundberg, Editor
[illegible], Research

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OPEC Downstream

U.S. GASOLINE IMPORT DEPENDENCE: GOOD OR BAD?

"At stake are the future of competition within the (U.S. refining) industry, our vulnerability to a product supply disruption and the security of the nation's military fuels supply as well as lost jobs and investments," reads part of the published rationale of the 15-company Independent Refiners Coalition (IRC), as it lobbies for legislative and other governmental action to prevent U.S. gasoline import dependency from putting independents out of business.

The 15* companies and a trade association, American Independent Refiners Association, formed IRC last year when they calculated that U.S. gasoline imports had risen 255% since 1981. Quoting Lundberg Letter/Energy Detente publisher Dan Lundberg, IRC's recent study, "Gasoline Imports and National Security," says:

> "Oil industry analyst Dan Lundberg reports that more than 100,000 of the nation's 250,000 service stations have disappeared since the early 1970s. Gasoline storage capacity has disappeared along with those stations. Although the remaining stations are doing nearly twice the volume of business, they have not increased their gasoline storage facilities... In assessing the decline in the U.S. gasoline refining storage and marketing capacity, Lundberg recently stated, 'If we ever have a run on supply again, outages are going to be far more frequent and far more disturbing.'"

Citing facts reported in the Oil Daily, the same study says:

> "Since 1980 more than 100,000 refinery workers have been fired, laid off or placed on early retirement... We are, in effect, exporting our refineries overseas... Some of our most productive regions could face significant declines in economic growth bordering on recession... One recent study estimated the regional impact on the Texas Gulf Coast from refinery shutdowns to be in excess of 14:1 — each refining job lost costs 14 other jobs in the regional economy."

IRC cites the U.S. Department of Energy count of 107 refinery shutdowns between January 1981 and January 1984, warning that of 107 closures, 88 were independent refiners representing 82% of total capacity lost. IRC argues that independents supply about 25% of total gasoline and 50% of jet fuel and that "because they are dispersed geographically and are small enough to tailor production for specialty products, such as JP4 for military jets, independent refiners are vital for America's military fuel supply." IRC says remaining independents have upgraded technology to levels comparable with major oil company refiners and, domestically oriented, are unlike importers or multinational integrated majors who are "vulnerable to foreign government pressures." It argues that the U.S. refining sector no longer has significant excess capacity, and increased imports will lead to further refining capacity reduction and storage losses, translating to potentially greater U.S. vulnerability as to product supply and logistics.

---

* Amber Refining, Inc.; Apex Oil Company; Ashland Oil Company; Crown Central Petroleum Corporation; Diamond Shamrock Corporation; Golden West Refining Company; MacMillan Ring-Free Oil Company, Inc.; National Cooperative Refinery Association; Paramount Petroleum Corporation; Placid Refining Company; Pride Refining, Inc.; Rock Island Refining Corporation; Texas City Refining, Inc. Tosco Corporation; and Valero Energy Corp./Saber Refining Co.

IRC published materials include this statement: "Today, nearly one of every ten gallons of gasoline sold at the pump is imported or made from imported components."

They also include U.S. Department of Commerce evidence that finished gasoline imports combined with naphtha imports accounted for 7.1% of the U.S. gasoline market in 1984. (Motor gasoline alone accounted for 4.0%.) So the figure appears closer to one in seven gallons. Nevertheless, the share that imported gasoline plus naphtha imports have of the market has grown notably from just 2.8% in 1978 (the year U.S. gasoline consumption peaked).

The IRC's paper relating gasoline imports to national security problems specifically considers the Organization of Petroleum Exporting Countries to be "targeting" U.S. product markets:

> "Foreign crude oil exporters, seeking to industrialize and maximize their leverage over the world's oil consumers, are undercutting domestic refiners' prices in products such as gasoline... OPEC countries, primarily in the Mideast, are increasing their refining capacity substantially, with more than 2-million barrels a day firmly committed to be on line by 1988, and an additional 1-million barrels per day in the planning stages. In 1984, 325,000 barrels a day came on line and 895,000 barrels a day is scheduled to start up in 1985...
>
> "Virtually all of this refining capacity is targeted for export," the paper says.

MIDDLE EAST PRODUCT EXPORT VOLUMES

The front cover graph shows the above statement to be very close to findings by the Honolulu, Hawaii-based East-West Center.

Energy Detente used figures provided in the study, "The Changing Structure of World Refining Industry: Implications for U.S. Energy Security," from The East-West Center's Resource Systems Institute. The study, for presentation to the U.S. Department of Energy January 23, 1985, itemizes individual country members of OPEC and the Gulf Cooperation Council (GCC) as to projected refined product production, domestic demand, and gross product exports. With the caveat that uncertainties resulting from the war between Iran and Iraq prevent closer estimates, the study reveals that slightly over half the region's total refinery output by 1987-88 will be absorbed by domestic demand.

For gasoline and naphtha, country figures estimated by the Center come to a potential 610,000 barrels per day (b/d) of exports from the Persian Gulf. (Included in that 610,000 b/d estimated for 1988 are possible volumes of 30,000 b/d from Iran and 10,000 b/d from Iraq, subject to giant question marks.) Note: It's important that this estimate is Gulf only, excluding other OPEC member countries and non-OPEC sources of U.S. gasoline imports.

Shares by country are calculated as:

Saudi Arabia	42.7%
Kuwait	36.1%
Bahrain	7.9%
Other	13.4%

Although an important portion of total expected 1988 gasoline export volumes would reflect country strategies for the U.S. market, it's a far stretch to consider that 610,000 b/d could be destined entirely for the U.S. market.

Still, if the entire 610,000 b/d be assumed to be incorporated into U.S. gasoline imports in 1988, Persian Gulf exporters' market penetration could be projected:

> The Lundberg Survey, Inc. estimate for U.S. gasoline consumption for 1984 is about 6.7-million b/d. If no increase in consumption is assumed for 1988 (and some analysts say little increase can be expected), then 610,000 b/d would represent 9% of the market.
>
> That's two percentage points more than the role of total gasoline imports (including from non-Persian Gulf sources) during 1984.

According to the U.S. Department of Commerce, preliminary 1984 country shares of the U.S. gasoline imports market are as follows for the top six:

Venezuela	22.6%
Netherlands	8.0%
Canada	7.4%
Romania	7.0%
China	6.7%
Brazil	6.4%

These and over a dozen other countries have already carved important shares from the U.S. gasoline import market. No doubt competition will be heating up. Price cutting could entice U.S. importers to import more, thereby enlarging the pie for country competitors to slice up. Last year, Saudi Arabia had under 1% of the U.S. gasoline import market, according to the U.S. Department of Commerce — a share likely to grow soon.

EAST-WEST THINKS INDIES PROTEST TOO MUCH

The Independent Refiners Coalition warns that in addition of the 107 U.S. refineries closed since 1981, another 50 may close by the end of the decade.* "When our domestic refineries are closed, foreign refiners will be free to dictate product prices to the American consumers, knowing that we then will lack the ability to meet U.S. demand for gasoline," says Charles E. Walker of IRC. "It can take up to US $100-million to reopen a mothballed refinery and an average of six months to train personnel to operate equipment safely and efficiently," he says, adding that OPEC countries are not bound to a refined product price structure.

The East-West Center comments in its study for the U.S. Department of Energy, "all data indicate that independents are responsible for most of the U.S. imports of refined products."

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* Gary Refining Company, Inc., not listed as a member of IRC, announced March 4 it is filing for bankruptcy. The action is intended to preserve the operating capability of the company's 16,000 b/d Fruita, Colorado refinery scheduled to supply military jet fuel and other products from process shale oil from Union Oil Company of California's plant in Parachute, Colorado.

East-West conclusions on current U.S. imports of refined products are:

- "Almost 60% of product imports originate from America's OECD allies, U.S. possessions and U.S. refineries in the Caribbean.
- "Around 76% of product imports originate from the Western Hemisphere.
- "Only 2% of product imports or 0.2% of U.S. consumption is supplied from the Persian Gulf.
- "The current high level of imports from traditional sources may not continue as the U.S. economy slows down, other economies grow faster, and the dollar weakens.
- "The level of imports at present is not exceptional in a historical setting either in absolute terms or in relative terms.
- "Much of the furor over imports arises from the fact that product exporting countries have installed their own upgrading facilities, thereby increasing their relative output of lighter products.
- "The widespread impression that the Middle East refineries are a substantial cause of the current wave of imports is unfounded. Most of these refineries are under construction or just entering shakedown, and present exports to the U.S. are negligible. This situation, however, may change abruptly in the next few years."

The Center points out that construction of export capacity by the oil exporting countries was planned when their domestic requirements were growing at relatively high rates, and was also accelerated by the fact that "OPEC nations were often discouraged from acquiring facilities in the importing countries."

—PERSONALITY TYPES

The East-West Center has accomplished a stratification of world refineries in groupings according to crude sources and market outlets:

Captive refining, such as in Norway, with domestic oil reserves and domestic market, has "good control over both crude supply and market."

Market refining, like Japan, is characterized by oil imports and product flow to the domestic market: "Poor control over crude supply, good control over market."

Export refining, as with Saudi Arabia with domestic oil reserves and product for the world market, has "good control over crude supply, poor control over market."

Balance, or Entrepot refining, as with the Netherlands Antilles, imports oil and processes it for world refined product markets. This is "poor control over both crude oil supply and market."

Among important upcoming gasoline marketers, Saudi Arabia, with good crude oil control and poor product market control, has joint ventures (Yanbu with Mobil, Jubail with Shell, Rabigh with Petrola). East-West says Saudi export strategy will be "strongly influenced" by the viewpoints of the joint-venture partners.

Mr. Sharp. Thank you very much, Mr. Robinson. Mr. Rothschild.

STATEMENT OF EDWIN ROTHSCHILD

Mr. Rothschild. Thank you, Mr. Chairman. I, too, would like to have the entire prepared testimony placed in the record and would like to summarize some points but perhaps more in a rebuttal sense because I think in the previous panel Mr. Steuart and Mr. Bolch and on this panel, Mr. Robinson, reflect many of our views.

In the sense of rebuttal, I think we need first of all to keep a perspective on history with regard to oil and oil import policy. In the 1950's the country adopted a policy of restricting importation of crude oil on the basis that cheaper foreign crude was threatening U.S. security.

In retrospect, it may have been far better in terms of the economy because there would have been lower costs, in terms of preserving our own oil for future use to have imported that cheaper foreign oil from places like Saudi Arabia.

Then we turned around in the 1970's. We were worried about national security because we were importing too expensive foreign oil and we had to reduce our imports from foreign countries.

Now we have some of the same people who were here arguing both sides of the issue before are now coming back and saying that we ought to adopt restrictions on imports to again protect national security.

I think we have to define national security. The Department of Treasury, the Department of Commerce, the Department of State, the Department of Defense have all testified or commented in one way or another on this issue and have all come to the conclusion that no restriction on imports at this time is necessary and would not help national security particularly with respect to the economy.

Placing a fee or restrictions on imports will raise prices to consumers, to industries which will then have to face competition abroad.

The U.S. chemical industry will be hurt. The Petrochemical Energy Group for example has testified that they would be hurt vis-a-vis foreign competitors because they would face increased costs of their feedstocks and would have to face foreign competition who would not have those increased costs.

I think that there is some misconception about what OPEC is and what OPEC does and how it functions. It does not function as a cartel. It never has been able to function as a cartel. There have been too many disagreements.

When prices were going up in the 1970's OPEC met to simply adopt the prices that already had been determined in the spot market. Now as prices are going down, OPEC is powerless to do anything about it.

Most of the efforts on price maintenance are done at OPEC with the help—a great deal of help—from the large international companies like Texaco, Exxon, Mobil, and Standard Oil of California and others who are the primary buyers of crude oil from those countries and who also have a vested interest in domestic crude oil prices.

That, Mr. Chairman, is one of the keys, I think, in this issue that we are losing sight of, that the fall in product prices created by more imports of cheaper priced products into the United States has helped drive OPEC to distraction and to break up whatever kind of unity they had—which was very little to begin with—because it has driven down the price of crude.

Any OPEC country that cuts the price of its products is cutting its own throat, because it is driving crude oil prices down, down, down, down, down. That is what has happened. Imported gasoline into the U.S. East coast during the latter part of 1984 and early part of 1985 helped drive down gasoline prices which in turn helped drive down crude prices.

We are told that we should be worried about imported products, but here we have evidence over the last 4 months, May, June, July, and August where, because of some excess of demand in Europe for heating oil, heating oil imports have been down by 50,000 barrels per day relative to last year in the month of May, 109,000 barrels in the month of June, 133,000 in July and 161,000 in August.

All of that has led to a very sharply lowered inventory of heating oil. We may be in trouble this winter. What have the U.S. refiners done? They have not gone up above 80 percent. They have gone down. They haven't replaced all those imports. Here they are worried about threatened imports, but what are they doing about it when they have an opportunity to make up the imports that are not coming in now from overseas, heating oil, middle distillate fuels. They are not making it up.

They are not gearing up their refineries to increase production of heating oil to raise inventories. Heating oil spot prices are now as high or a little higher than last year at this time mainly because heating oil inventories are down.

Because of the decrease in imports which comes to about 14.5 million barrels over the 4 months, the total amount of inventory declined from 16.7 million barrels.

I also want to rebut some of the things that were mentioned by Mr. Tell from Texaco who came here as a "statesman," I want to suggest that Texaco has a lot of very important economic special interest pleading on this issue. They wouldn't be involved in this issue unless those interests exist.

No. 1, unlike a lot of international companies Texaco per se is not a company with export refineries. They are a domestic refinery in the United States and many other foreign countries where they supply the domestic market but don't have a big refinery for export.

Like in Saudi Arabia. They criticized Saudi Arabia because Saudi Arabia went into joint ventures with Mobil and Shell and Texaco didn't. Instead, Texaco decided to build a small lube refinery in Saudi Arabia.

Texaco is also a large crude producer. They have had some troubles in recent years. They don't want to see the price of crude go down, another reason why they want to see something done if imports continue to present some competition and lower prices.

They are also a big merger and acquisition company which just bought Getty and they have a lot of money to pay back on debt. If crude oil prices fall further, they will be in financial trouble.

Finally, they totally mismanaged and made mistakes with respect to their investment in LOOP, the huge offshore port in Louisiana, which is designed to take in imported crude oil but since demand has fallen so drastically, LOOP is not being used and therefore, the crude is not coming in to be refined at their big refinery there.

So Texaco has a lot of economic interest in this issue, and its view is simply not a statesmanlike approach of what would be best for the country.

Finally, with respect to what ought to be done if we get to the position where this is really a threat, and that could happen, we should not use any blunt instrument like a fee or something that will sharply raise prices and hurt our country economically and hurt the consumers and people employed in many of the industries that are dependent upon oil, but more specific tools. A refinery product reserve was mentioned and perhaps even a refinery on stand-by basis, that could be operating could be used and it would be far cheaper than simply imposing a huge cost on the economy.

Certainly unemployment insurance for any workers that are displaced by an increase in imports and refineries are shutdown plus a retraining program is absolutely essential.

We share the view that we are not in a position yet to impose any fees. We don't think it is a threat to the national security but we do appreciate, Mr. Chairman, that the committee is taking a close look at this issue and I would be happy to answer any questions.

[Testimony resumes on p. 685.]

[The prepared statement of Mr. Rothschild follows:]

Statement of

Edwin Rothschild
Assistant Director

Citizen/Labor Energy Coalition

Mr. Chairman and members of the Committee. My name is Edwin Rothschild. I am the Assistant Director of the Citizen/Labor Energy Coalition, a nationwide organization representing over 20 million low and middle income citizens, who are consumers of gasoline, heating oil and other petroleum products. As consumers we are directly affected by changes in the price of these products. We therefore very much appreciate the opportunity to testify today on the impact of imported petroleum products on the domestic petroleum industry and on the U.S. economy.

We do not believe there is any need or justification for restricting imports of petroleum products into the United States. Our position is based on the following reasons:

- There is no longer an event -- the British coal strike -- which is precipitating a worldwide surplus of gasoline production that drove gasoline prices down between August 1984 and January 1985.

- Beginning in January U.S. refiners sharply reduced gasoline production and inventories in response to which they were able to raise wholesale and retail prices to the highest level in nearly two years.

- There is no evidence showing that oil company joint venture refineries in Saudi Arabia or other refineries now nearing completion in the Middle East will dramatically undercut crude oil prices by underpricing gasoline. This is because Saudi Arabia, like the major integrated oil companies, earns the bulk of its revenues from the production and sale of crude oil.

- The modest increase in petroleum product imports which, in part, has contributed to a lowering of product prices, is not the real source of trouble for domestic non-integrated refiners. The chief problem is the inability of non-integrated refiners to obtain lower-priced crude oil.

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* Even though the volume of product imports is growing, we are still importing less then we did in 1973, the year in which President Nixon formally ended the Mandatory Oil Import Program, a policy which had been costing U.S. consumers over $5 billion a year in higher oil prices.

* At a time when the oil market is becoming increasingly competitive and when imported products are an important factor in driving down domestic product prices, restricting product imports would not only harm the U.S. economy, but strengthen OPEC and other crude producers.

* The nation's security is strengthened by a strong and growing national economy. Declines in petroleum prices have reduced the inflation and unemployment rates. Proposals to restrict product imports could raise prices by 5 cents to 6 cents a gallon, or $12 to $15 billion a year. Such price increases will diminish economic growth, push up the rate of inflation and lead to additional unemployment.

* The U.S. petroleum market is undergoing rapid change. The Department of Energy is projecting only modest growth in petroleum demand and a decline in demand for gasoline. Thus, the U.S. has been faced with excess refinery capacity, a condition which in and of itself leads to increased competitive pressures.

*In the event of an oil supply disruption, current refinery capacity is sufficient to utilize crude from the SPR. If there is any reason to believe that such capacity might be insufficient, the U.S. Government could create a strategic reserve of refined products or a strategic refinery capacity.

History and Context

Over the last four years we have witnessed many unanticipated consequences of the ten-fold increase in oil prices that occured between 1973 and 1981. Exxon, for example, in its 1980 World Energy Outlook assumed along with most other major oil companies, banks and governments that the upward oil price trend would continue and oil would reach $55 a barrel in 1985. The assumed increase in oil prices and the assumed growth in oil consumption obviously did not materialize. Exxon and other oil company prognosticators were dead wrong. The scarcity of oil was a temporary phenomenon -- the result of market dislocation, opportunistic behavior, greed and price manipulation. It was not a condition of the resource exhaustion.

Nevertheless, the consequences of two oil price shocks for the U.S. and world economies have been startling. The reduction in oil demand[1], the development of new oil supplies in areas outside of OPEC, the shift to other fuels, the recession, the strength of the dollar and the increased reliance on and participation in spot and futures markets have all contributed to increased competition among oil producers and refiners and to a substantial decrease in the price of oil.

Despite the decline in oil prices from $34 to $28 per barrel, the world is still awash in oil and in excess refinery capacity -- a clear indication that prices are still above competitive levels. Many economists believe that the competetive price of oil -- the marginal cost of production -- is somewhere between $15 and $20 per barrel. Arlon Tussing, former chief economist

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1. U.S. oil use in 1984 was only slightly higher than in 1971. In fact total energy consumption in 1984 was similar to that in the early 1970's.

for the Senate Energy Committee, estimates oil prices should fall to somewhere between $10 and $18 a barrel. [2] Similarly, John Lichtblau, president of the Petroleum Industry Research Foundation, believes the price in a free market "would plunge to a very low level--perhaps less than $20 per barrel--given the low production costs of most of the world's currently shut in excess capacity."[3] In other words, despite the concerns expressed about falling product prices, the reality is that these prices should fall under competitive market conditions. Only in the event that prices do not fall further or if there are efforts by companies and/or governments to prop prices up will there be cause for concern.

While the major international oil companies and OPEC have tried to prop up prices[4], they have had limited success. Despite their best efforts, the continued excess of crude oil and refinery capacity encourage price competition. Thus, on May 30 The Wall Street Journal concluded:

> It is most likely, however, that the Saudi official's call for a price cut, coupled with price cuts already applied by Egypt, the Soviet Union and several members of OPEC, will perpetuate the current slide in oil prices.

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2. "The Oil Bust Panic," by Charles Krauthammer, The New Republic, February 21, 1983.

3. "Lichtblau: Market Won't Justify Higher Oil Price," Oil & Gas Journal, January 31, 1983.

4. See "Born Again Cartel," by Edwin Rothschild and Steven Emerson, The New Republic, November 4, 1984.

More recently, Mexico announced on July 10 that it was cutting its crude oil prices by an average $1.24 per barrel. On Monday, the Wall Street Journal reported that Venezuela and Egypt were planning to lower their prices. The degree of disarray within OPEC is underscored by the fact that "nearly 80% of OPEC exports are selling for less that the cartel's official levels."[5]

In response to these increasingly competitive conditions, oil companies throughout the world are restructuring their operations. Exxon has been spending billions of dollars to purchase its own stock. It is closing refineries throughout the world. It has given notice to thousands of its employees. Mobil has admitted failure and is seeking a buyer for Montgomery Ward. Arco has decided to abandon its operations east of the Mississippi and reduce its staff by 20 percent. The raids of T. Boone Pickens have forced some companies into weakened financial positions and others into the arms of competitors. Some companies have sought refuge in the bankruptcy courts.

This then is the context within which today's hearings are being held. Many refiners under the pressure of falling margins between the cost of their raw material -- crude oil -- and the price at which they sell their products -- gasoline, heating oil,

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5. "Venezuela, Egypt Are Said to Plan Cuts in Oil Prices," The Wall Street Journal, July 15, 1985.

etc. -- are seeking government control over product prices through restrictions on imported products.

We believe proposals to restrict petroleum product imports are ill-advised and counter-productive. Such proposals would not only strengthen OPEC, but would damage the U.S. economy by increasing inflation and unemployment and by undermining economic growth. The real problem facing the non-integrated U.S. refiners, who are calling for import restrictions, is the high price of crude oil and the ability of major integrated oil companies to subsidize their refining operations with earnings from crude oil production.

In our view this Committee should take a close look at the way in which domestic crude oil prices are set as well as the impact of imported petroleum products. The product market has become more competitive and as a result has led to the lowering of crude oil prices. But, because the major oil companies are both oil producers and refiners, their interest in preventing further reductions in the price of crude oil is substantial. The current effort to reduce the availability of gasoline supplies is one way the major companies may be working to prop up domestic crude prices [See Appendix A] Even if they are not taking deliberate actions in this regard, the outcome is the same.

The Economic Benefits of Lower Petroleum Prices

The benefits to the nation's economy of the decline in oil prices from $34 per barrel to $28 per barrel have been widely recognized. The Congressional Budget Office found:

> ...a sizable and permanent decline in oil prices would have a very favorable effect on inflation and on economic growth in the United States, and would significantly reduce the projected baseline budget deficit by 1988.[6]

The CBO also concluded that a $6 per barrel drop in oil prices:

> * Would make available to consumers $32 billion that would otherwise be spent on oil.
>
> * Would improve U.S. trade deficit and mean a net gain of $10 billion.
>
> *Would reduce unemployment by nearly 0.5 percent.

Former Treasury Secretary Donald Regan expressed a similar view in a 1984 memorandum (Appendix) to former Energy Secretary Donald Hodel:

> I agree that lower oil prices would bring benefits to almost everybody...There is no question in my mind that we should resist any pressure on us to prop up oil prices.

Secretary Regan's views were based on a comprehensive 1983 study by the Treasury Department which concluded that a $8 per barrel drop in oil prices (from $33 to $25 a barrel) would:

> ...lead to a real GNP increase of about 1 percent and a modest reduction in the unemployment rate of perhaps 0.4 to

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[6] "Economic and Budgetary Consequences of an Oil Price Decline -- A Preliminary Analysis," Congressional Budget Office, March 1983, p. 1.

> 0.5 percentage points. This would translate into higher employment by about 400,000 to 500,000 persons.
>
> ...reduce the budget deficit by approximately $4 billion to $5.5 billion.

Recently, the Treasury Deaprtment's Deputy Assistant Secretary for Arabian Peninsula Affairs, Charles Schotta, told a conference of the International Association of Energy Economists,

> ...I believe a decline would benefit the world economy and should be welcomed...A $5 a barrel of 25%-20% drop in the average level of world oil prices would provide significant stimulus to economic expansion and dampen inflation. In the year following such a price reduction, total U.S. expenditures for oil would decline by about $30 billion and the U.S. oil import bill would drop by about $10 billion.

And in 1983 the Department of Commerce concluded that the benefits of an oil price decline would be "widespread." The Commerce Department found that many U.S. industries would realize substantial benefits from reductions in oil prices -- transportation, electric utilities, producers of chemicals, plastics and synthetic materials for whom petroleum is a major input material. Moreover, the Commerce Department found that "schools, hospitals, and churches will realize significant savings" from lower oil prices, because these organizations purchase "one crude oil equivalent barrel per $1000 of gross output."[7]

A drop in price to $20 per barrel is estimated by Data

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7. "The Impact of the Expected Oil Price Decline on Individual Industries," Department of Commerce, April 12, 1983.

Resources Inc. to provide a 5.3% increase in real GNP, a 5% gain in real industrial output and a 2.3% reduction in consumer prices.[8] And Fortune reported that "a drop in crude prices to $20 would boost car sales--now 10.6 million cars a year--to their 1973 peak of 11.3 million."[9]

Based on the results of these and other studies, the Department of Energy has concluded that imposing higher tariffs or fees on petroleum product imports might well reduce "dependence on insecure sources of supply," but would also "hurt consumers and industries, damage trade relations with our neighbors and allies, and threaten the pace of our economic growth."[10] While the Citizen/Labor Energy Coalition does not often agree with the energy policies of this Administration, with regard to this issue we are in complete agreement.

The Role of Petroleum Product Imports in Promoting Competition and Lowering Prices

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[8] "OPEC Still Hasn't Faced Up To Reality," Business Week, February 11, 1985.[See Appndix C]

[9] "Winners and Losers from Cheaper Oil," Fortune, November 26, 1984.[See Appendix D]

[10] Statement of Danny J. Boggs, Deputy Secretary of Energy, before the Environment, Energy and Natural Resources Subcommittee of the Committee on Government Operations, U.S. House of Representatives, April 1, 1985.

Economist Philip K. Verleger, Jr. argues that the importation of lower-priced petroleum products into the U.S. East Coast results not only in forcing U.S. refiners to reduce the price at which they sell competing products on the East Coast, but also the price they pay for crude oil. [11]

Because of the worldwide surplus of refinery capacity and tanker capacity and the lower than expected demand for gasoline and other products, competition among refiners has intensified. As surpluses build up, particularly gasoline during the duration of the British coal strike, and as transportation costs decline, the differential between the price of product oversees and in the U.S. widens. This widening differential increases the willingness of U.S. petroleum product wholesalers [including many of the refiners calling for product limitations] to import foreign product. The lower-priced imports increase competition by forcing U.S. refiners on the East Coast and Gulf Coast to reduce their product prices. "...anything that comes into the East Coast backs up product on the Gulf Coast. This results in excess supplies and weaker prices."[12] Once U.S. gasoline and other product prices fall, refiners, especially non-integrated refiners, must obtain lower cost crude oil in order to maintain

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11. "Export Refineries: A Pandora's Box?" CRA Petroleum Economics Report, Charles River Associates, Vol. I, No. 1, October 8, 1984.

12. "Rising Gasoline Imports Affect U.S. Prices," PhilNews, Phillips Petroleum Company, Vol. Ten, No. 4, April 1985.

their margins. These efforts, led for the most part by independent refiners, have resulted in the lowering of crude oil prices and the weakening of OPEC.

The real source of discontent among many U.S. refiners has far less to do with petroleum product imports than it does with the increasing competitiveness of the oil marketplace. The problems are part and parcel of the enormous changes that have taken place in the world oil industry since 1981. These include the sharp drop in demand and the likelihood of declining gasoline consumption in the U.S., the fact that world refining capacity exceeds demand and that non-integrated refiners, despite the efficiency of their operations, are at a competitive disadvantage vis a vis major integrated firms and are often caught in the squeeze of rapidly declining product prices and more slowly declining crude prices.

Non-integrated refiners represent the competitive fringe of the domestic petroleum industry. They not only undersell their integrated rivals, but also have been able to obtain, at least according to recent DOE data, lower priced crude oil.(See Table I) Despite their competitiveness, independents do not have the staying power that large integrated companies have. Because the major earn about 90% of their domestic income from oil and gas production, they can, unlike non-integrated firms, cushion refining and marketing losses. One independent refiner was recently quoted as saying,

> It's a game for deep pockets. We're playing with the big boys. Most of the independents, even if they've modernized to turn out enough unleaded, haven't the economy of scale to cope with current product market competition. It's captive crude that will keep the majors from folding, and that's what we haven't got."[13]

This issue was also central to the Federal Trade Commission's complaint against the major integrated companies.[14] The FTC attorneys showed how the major integrated companies controlled domestic crude oil prices through a variety of schemes ranging from controlling crude oil gathering lines to maintaining posted prices, from engaging in a network of exchange agreements to refusing to sell crude oil on the open market. Moreover, the FTC demonstrated that independent, non-integrated refiners were usually at a disadvantage and could only survive if they were able to pass through into the price of products 100% of crude oil costs. Conversely, in a period of declining product prices, an independent can only survive if he can reduce crude costs by an amount equal to the reduction in product prices. An integrated firm can afford a margin squeeze, and in fact, have a vested interest in preventing crude prices from falling.

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[13] "U.S. Refiners Under Siege, but OPEC's Not the Problem," Energy Detente, Vol. VI, No. 6, March 20, 1985.

[14] In Re Exxon Corporation, et. al., Docket No. 8934, Federal Trade Commission; see especially Complaint Counsel's First Statement of Issues, Factual Contentions and Proof, October 31, 1980.

Because major integrated oil companies earn approximately 90% of their domestic income from oil and gas production, they are more concerned about crude prices. Up until recently, the existence of the Windfall Profits Tax has insulated domestic producers from decreases in the price of crude oil. A recent analysis of the decline in oil prices and its effect on producer receipts found that "the federal government absorbed 91 percent of the decline in price.[15] In its first quarter report to shareholders, Murphy Oil Company stated it would become concerned when the average price of oil reaches $26. At that level, the company not the U.S. government would lose revenue. Another report found that "Until now, US tax rules minimized the impact of falling prices to pennies a barrel for oil companies, but each future drop of a dollar will reduce after-tax producing profits [on North Slope production] by 45 cents a barrel.[16] As the Windfall Profits Tax cushion disappears, however, further reductions in wellhead oil prices will come at the expense of producers. Recently, U.S. refiners sharply reduced production and inventories of gasoline. As a result gasoline prices have recovered and spot market crude prices are holding steady. Thus, fears of a "flood" of imported gasoline may only be relevant for

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15. "What Ails Oil," Economics Monthly, Charles River Associates, ed. by Phillip K. Verleger, Jr., January 11, 1985.

16. "Alaskan Producers to Feel the Squeeze if Prices Fall Again," Petroleum Intelligence Weekly, June 24, 1985.

the period when the refiner response to the British coal strike unavoidably created a sudden glut of gasoline. If this is the case, then the call for restrictions on imported product is weaker still.

U.S. Refinery Shutdowns and Foreign Competition

Refiners supporting product import restrictions claim that the increase in imports has resulted in the closing of U.S. refineries and that "subsidized" foreign refiners are dumping lower cost products into the U.S. But what has actually happened over the last four years -- the period of oil price decline?

Between 1981 and 1984 U.S. refinery capacity declined from 18 million barrels per day to 15.8 million barrels per day. This decline was in direct proportion to the decline in domestic demand for petroleum products which fell from 18.8 million barrels per day to 15.7 million barrels per day. Total imports of petroleum products remained virtually the same, with the only difference being in the composition of products making up the total. [See Table II] There was an increase in gasoline and other light products and a decline in residual fuel and other heavy products. Given the huge investment worldwide in refinery upgrading, the shift away from heavy products to light products was entirely logical.

The decline in domestic refining capacity was centered, for the most part on either old, inefficient refineries or small, inefficient refineries which came into being solely to take advantage of the crude oil entitlements program adopted during the 1970's. Of the 104 refineries shut down in the United States since 1981, 52 had capacities below 10,000 barrels per day and 84 had capacities below 30,000 barrels per day. The chief reasons why refineries have been shut down, other than the end of the entitlements program, include the sharp reduction in domestic oil consumption and the recent spate of mega-mergers among major oil companies. It should be noted that refinery shut-downs are taking place all around the world.

Concern about imports originating in the Middle East are based on refinery projects either just completed or near completion in Saudi Arabia, Libya and other countries. The Saudi Arabian export refineries are 50/50 joint ventures, two of which are with multinational oil companies -- Mobil and Shell. While these refineries have all the up-to-date technology and are likely to operate at high levels of utilization, the fear of dumping is illogical. Like major integrated refiners the Saudis and their partners still earn most of their income from the production of crude oil. Dumping product assumes they are willing to see sharp drops in the price of crude as well -- something which is clearly not in their economic interest.

Oil Decontrol, Energy Forecasts and other Ironics

It is ironic, Mr. Chairman, that just four years ago some of the very companies that are here today seeking some form of federal control over domestic petroleum prices were touting the benefits to the oil industry and the U.S. economy of ending federal controls over domestic oil prices. In his March 4, 1981 comments to shareholders, Texaco Chairman John McKinley stated,

> Specifically in the United States, this year the petroleum industry will have the opportunity, for the first time in many years, to operate without price controls on crude oil and petroleum products.[17]

McKinley went on to praise the Reagan Administration's new energy policy for its "overall reliance on the free market mechanism."[18]

Texaco's joy over oil decontrol has recently turned to dismay. Things didn't work out in the way that Texaco executives and economists expected. The artificially high cartel oil prices of the 1970's have collapsed. The downturn in demand, the excess refinery capacity, the crude oil surplus, the expansion of the spot market, the emergence of futures market, the disarray among OPEC members and the conflict between domestic and international companies, between integrated and non-integrated firms and

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17. Texaco 1980 Annual Report

18. *Ibid.*

between refiners and marketers have all contributed to downward pressure on prices.

Texaco's concern over the impact of imported oil products has far more to do with its own financial condition than with national security. Texaco's acquisition of Getty Oil for over $10 billion was premised on the expectation that crude oil prices would remain above $25 a barrel.[19]

The threat to the price of crude oil and the financial viability of its Getty acquisition underlie Texaco's fear of oil product imports. In addition, Texaco is a firm with many small, inefficient U.S. refineries, which in the current market are unable to compete, except for the fact that Texaco can subsidize operations through its crude oil earnings. And Texaco, unlike Mobil, does not have a joint venture export refinery in Saudi Arabia and thus cannot benefit to the degree to which Mobil is able from those exports.

Under these conditions competition and the free market are seen by Texaco and other oil refiners as a clear and present danger. Thus, on March 12, 1985 John McKinley told his shareholders of

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19. See Fortune, November 26, 1984, "Other big losers [from a substantial decline in oil prices] could be Texaco, Mobil and Chevron, which acquired other oil companies. The acquirers borrowed heavily and paid prices based on assumptions of constant or gently rising oil prices." See also "Oil Price Decline Could Create Winners, Losers," The Washington Post, July 14, 1985.

his concern about "the increased flood of foreign petroleum product imports," about the fact that foreign refiners have the audacity to compete by pricing "their exports at whatever level is necessary to sell their output into the currently saturated market." McKinley told Texaco shareholders that he expected the Reagan Administration "to turn its attention to this drift into possibly excessive dependence on foreign petroleum product imports." Obviously incapable of admitting his affection for federal controls on imported products to prop up domestic prices, McKinley stated in an oblique yet telling fashion that "serious injury to both the economy and national security can only be avoided by conscious policy decisions."

These so-called "conscious policy decisions," according to a December 18 Texaco briefing paper are "limitations on product imports, such as tariffs or import fees, import quotas, tariff-rate quotas or other measures."

Another company calling for import restrictions is Ashland Oil. But Ashland likes to work both sides of the street. Even though it publicly trumpets the "threat to national security" posed by rising product imports, it tells Wall Street that the refining business over the long term "will make good money 10 out of 12

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20. "Ashland Believes It can Pump Out Earnings Despite Uncertainties Concerning Oil Refining," The Wall Street Journal, February 26, 1985.

years."[20]

Conclusion

Over the last few years the U.S. economy has benefitted greatly from the decline in petroleum prices. This decline, brought about in large part by the existence of surplus crude oil producing capacity and excess refining capacity, ought to continue because oil prices still exceed competitive market levels. U.S. policy should be directed at encouraging more competition, not less. Prohibiting oil companies from owning production and refining would increase competition by making all U.S. refiners more willing to force reductions in the price of crude oil when product prices fall. On the other hand, setting up barriers to competition through product import restrictions will not only sharply increase U.S. petroleum prices, but damage economic growth and international trade.

Finally, it would be a terrible mistake for Congress or the Administration to take any action based on mere speculation of future industry developments. Because the costs of restricting oil imports would be very high, only the gravest threat to national security can justify such action. There is not now, nor is their likely to be such a threat. In the event, however, that this threat materializes, Congress will have sufficient opportunity to act accordingly.

TABLE I

OIL REFINER MARGINS
($/barrel)

Major Refiners

YEAR Month	Wght. Ave. Prod. Price	Ref. Acq. Crude Price	Margin
1984			
Jan.	35.28	28.64	6.64
Feb.	35.49	28.76	6.73
Mar.	35.03	28.75	6.28
Apr.	36.04	28.73	7.31
May	36.12	28.78	7.34
Jun.	35.45	28.71	6.74
Jul.	34.31	28.76	5.55
Aug.	33.89	28.68	5.21
Sep.	34.52	28.61	5.91
Oct.	34.94	28.56	6.38
Nov.	34.19	28.30	5.89
Dec.	32.93	28.05	4.88
1985			
Jan.	31.84	27.17	4.67
Feb.	32.17	26.67	5.50
Mar.	33.64	26.86	6.78
Apr.	35.48	27.10	8.38

Other Refiners

YEAR Month	Wght. Ave. Prod. Price	Ref. Acq. Crude Price	Margin
1984			
Jan.	33.60	28.79	4.81
Feb.	34.02	28.94	5.08
Mar.	33.52	29.03	4.49
Apr.	33.98	28.92	5.06
May	34.10	28.99	5.11
Jun.	33.52	29.01	4.51
Jul.	32.55	28.88	3.67
Aug.	32.17	28.71	3.46
Sep.	32.63	28.59	4.04
Oct.	33.10	28.57	4.53
Nov.	32.42	28.30	4.12
Dec.	30.79	27.62	3.17
1985			
Jan.	29.99	26.44	3.55
Feb.	30.24	25.90	4.34
Mar.	31.65	26.39	5.16
Apr.	33.24	26.75	6.49

Source: Petroleum Marketing Monthly, EIA.

TABLE II

PETROLEUM PRODUCT IMPORTS, CONSUMPTION AND REFINERY CAPACITY
(thousands of barrels per day)

YEAR	PRODUCT IMPORTS	TOTAL DEMAND	IMPORTS/ DEMAND	OPERABLE REFINERIES	REFINERY CAPACITY	AVE. REF. CAPACITY	REF. CAP. UTIL.
1973	3,012	17,550	0.17	268	13,640	50.90	93.9
1974	2,635	16,890	0.16	273	14,360	52.60	86.6
1975	1,951	16,540	0.12	279	14,960	53.62	85.5
1976	2,026	17,700	0.11	276	15,240	55.22	87.8
1977	2,193	18,690	0.12	282	16,400	58.16	89.6
1978	2,008	19,220	0.10	296	17,050	57.60	87.4
1979	1,937	19,000	0.10	308	17,440	56.62	84.4
1980	1,646	17,610	0.09	319	17,990	56.39	75.4
1981	1,599	16,660	0.10	324	18,620	57.47	68.6
1982	1,625	16,110	0.10	301	17,890	59.44	69.9
1983	1,722	15,970	0.11	258	16,860	65.35	71.7
1984	1,979	16,430	0.12	247	16,140	65.34	76.1

Source: Annual Energy Review 1984, Energy Information Administration.

APPENDIX A

PUMPING UP THE PRICE

Why U.S. Gasoline Prices Are Rising Amidst A Worldwide Oil Glut

A Research Report
By The
Citizen/Labor Energy Coalition
April 14, 1985

Recently, economists for some of the nation's largest oil companies predicted that oil prices would stabilze and that markets would strengthen because of "particularly low" inventories of gasoline.[1] On April 8, 1985 the Oil & Gas Journal reported that U.S. gasoline pump prices had jumped by nearly 4 cents per gallon between early March and early April. This price increase was not induced by any sudden disruption in supply, but rather by a conscious decision to reduce the level of U.S. gasoline inventories to the lowest level in 10 years.

Unlike the heating oil market, where a sudden cold snap can cause a swift and sharp increase in demand, there has been no perceptible surge in gasoline consumption. On the contrary, according to data from the Department of Energy's Energy Information Administration, U.S. gasoline demand has remained flat.

What then has caused the sudden tightening in the gasoline market? The data demonstrate that actions by refiners to reduce operations, cut gasoline production and draw down inventories are behind the present situation.

Findings

* U.S. oil refiners have reduced gasoline inventories from 243.5 million gallons at the beginning of January to 217.7 million gallons at the beginning of April, at a time when they should be building inventories in preparation for the summer driving season.

* As inventories have declined, gasoline spot prices have jumped by 13 cents a gallon and retail prices have climbed by 4 cents a gallon.

* Unless U.S. refiners begin immediately to increase their refinery operations and build gasoline inventories, there will be continued pressure on gasoline prices such that consumers could face an additional increase of 10 cents per gallon by the July 4 holiday.

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1. "Forecasts Differ on Oil Prices," Journal of Commerce, April 1, 1985

The Evidence

In the first three months of 1985 the U.S. refining industry reduced its inputs of crude oil to 11.5 million barrels a day (mb/d) from 11.9 mb/d in the first quarter of 1984 -- a drop of 400,000 barrels per day (b/d). This reduction in crude flowing through the refineries was designed to reduce the volume of manufactured petroleum products.

The decline in the output of petroleum products was focused primarily on gasoline. During the first quarter of 1984 gasoline production averaged 6.23 mb/d. But, during the first quarter of 1985, production dropped 360,000 b/d to 5.87 mb/d.

Together with the gasoline produced by the nation's refineries, imports of gasoline make up the total volume of gasoline used by the nation's consumers. Imports, however, were not sufficient to make up for the drop in production. In the first quarter of 1985, gasoline imports averaged 303,000 b/d compared to 293,000 b/d during the first quarter of 1984 -- an increase of only 10,000 b/d.

The combination of U.S. refinery production of gasoline and gasoline imports has not been sufficient to meet demand. During the first quarter of 1985 gasoline demand averaged 6.37 mb/d, while production and imports amounted to only 6.17 mb/d -- a shortfall of 200,000 b/d. This amount of demand was satisfied by drawing down inventories from 243.5 million barrels at the beginning of January to 217.7 million barrels at the beginning of April, the lowest level in 10 years. (See Table I)

As refiners drew down gasoline inventories and thereby reduced available supplies, gasoline spot market prices surged. On January 4 the New York Harbor spot market price for gasoline was 67.3 cents per gallon. By March 29, it had increased to 80.3 cents a gallon -- a jump of 13 cents per gallon. The increase in spot prices has, so far, been translated into a 4 cent per gallon increase at the retail level. (See Table II)

Unless U.S. refiners increase their gasoline production to an average of 6.7 mb/d and their refinery capacity [currently 15.4 million barrels per day] utilization from an average 75% to 77% and maintain imports at 300,000 b/d for the months of April, May and June, supplies of gasoline will be insufficient to prevent an increase in price of 10 cents per gallon by the July 4 holiday.

Compounding the current extremely low level of gasoline inventories is the decision by the Environmental Protection

TABLE-I

REFINERY ACTIVITY AND GASOLINE SPOT PRICES

MONTH	GASOLINE STOCKS (mill. bbls)	CRUDE INPUT (mb/d)	GAS. PROD. (mb/d)	AVE. SPOT P NY - $/BBL
JAN. 1985	234.00	11.50	5.90	28.
FEB. 1985	224.80	11.50	5.80	31.
MAR. 1985	217.70	11.40	5.90	32

Source: "Weekly Petroleum Status Report," EIA.

TABLE II

GASOLINE PUMP PRICES
(cents/gallon)

City	3/6/85	4/3/85	Change
Atlanta	107.30	112.00	4.70
Baltimore	109.00	110.60	1.60
Boston	109.50	111.20	1.70
Buffalo	115.90	117.00	1.10
Miami	109.90	113.90	4.00
New York	117.00	118.70	1.70
Philadelphia	110.80	112.50	1.70
Washington, D.C.	112.10	113.80	1.70
Chicago	119.10	123.60	4.50
Cleveland	108.00	112.20	4.20
Detroit	113.60	117.60	4.00
Indianapolis	110.40	116.20	5.80
Milwaukee	114.60	118.00	3.40
Minneapolis	111.80	116.60	4.80
St. Louis	104.50	110.00	5.50
Dallas	110.20	112.70	2.50
Denver	104.60	116.30	11.70
Los Angeles	114.00	120.10	6.10
Seattle	117.70	117.60	-0.10
U.S.	111.91	115.37	3.46

Source: Oil & Gas Journal

Agency (EPA) to reduce the lead content levels in leaded gasoline by July 1. Because not all U.S. refiners are technically capable of meeting those standards, there is likely to be additional pressure on available supplies. Industry analysts estimate that the increased cost per gallon to produce lower levels of lead while maintaining octane ratings is approximately 2-3 cents per gallon.[2] Thus, an increase of anything more than this amount will be due to refinery operations and inventory management.

In 1985 as in 1984 the world is faced with an excess supply of crude oil and oil refining capacity. With oil demand increasing only modestly, there has been continuous downward pressure on oil prices. As competition increased and gasoline and other petroleum product prices declined, profitability in refining dropped sharply. According to the Department of Energy, "The average price of gasoline in Q484 was 5.7 percent below Q483. Crude input prices, however, fell only 2.4 percent below Q483 levels."[3]

Analysis

The failure to reduce crude oil prices in reponse to the drop in product prices is due to the ability of the major oil companies to resist cutting the price of domestic crude oil. Up until recently, the existence of\the Crude Oil Windfall Profits Tax has insulated domestic oil producers from decreases in the price of crude oil. A recent analysis of the decline in oil prices and its effect on producer receipts found that "the federal government absorbed 91 percent of the decline in price."[4] As the WPT cushion disappears, however, any further reduction in wellhead oil prices will come at the expense of the companies, not the government. Thus, the need to prevent further pressure to reduce crude oil prices. (See Table III)

Under conditions of excess crude production capacity and excess refining capacity, the expected economic behavior is intensified competition and price cutting to bring supply and demand into balance. This is what we have seen over the past several years.

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2. "Refiners Pressed By Gasoline Lead Cuts," Oil & Gas Journal, April 1, 1985.

3. U.S. Energy Industry Financial Developments, 1984 Fourth Quarter, Energy Information Administration, Department of Energy.

4. "What Ails Oil," Economics Monthly, Charles River Associates, ed. by Philip K. Verleger, Jr., January 11, 1985.

TABLE III

EFFECT OF WINDFALL PROFIT TAX ON CRUDE OIL PRICES FOR SELECTED COMPANIES -- 1984

Company		1983	1984
	Well. Price	27.00	25.29
Texaco	WPT	4.44	2.67
	Net	22.56	22.62
	Well. Price	21.00	20.88
Arco	WPT	2.11	1.61
	Net	18.89	19.27
	Well. Price	28.60	28.31
Amoco	WPT	6.51	4.63
	Net	22.09	23.64
	Well. Price	26.28	26.00
Shell	WPT	4.70	3.19
	Net	21.58	22.81

Source; Company annual reports.

Price cutting to increase refinery utilization and market share are the patterns of competitive behavior that should be taking place. Instead, we have efforts to reduce supply by reducing output and restricting competitive forces with the goal of preventing price erosion and precipitating price escalation.

While the available aggregate data tell us a great deal about overall changes in inventories, supplies and prices, they are not sufficiently specific to identify the powers behind these changes.

Based on the data, it is hypothesized that U.S. major integrated firms are unwilling to see the price of their crude oil -- the most profitable segment of their operations -- reduced further. Pressures to reduce crude oil prices occur when prices for petroleum products fall and refiners, particularly non-integrated refiners, begin reducing the price they are willing to pay for domestically produced crude oil. (See Table IV)

Recommendations for Consumers

Based on the above report, the Citizen/Labor Energy Coalition makes the following recommendations to consumers interested in ways to reduce gasoline costs:

* Shop around for the least costly gas. Because all gasoline is the same [except for octane level and lead content], shopping around for the cheapest price will help force other gasoline dealers to reduce their prices.

* Write to your member of Congress and the Justice Department for an investigation into why gasoline prices are rising when there is a worldwide surplus of oil.

* Cut back consumption by driving less and making sure that automobile is operating efficiently.

TABLE IV

SOURCES OF MAJOR OIL COMPANY EARNINGS
(in millions of dollars)
1984

Company	Expl. & Prod.	Refining	Total	Percentage
Exxon(1)	2,012	161	2,173	0.
Texaco(2)	1,994	(309)	1,685	N
Mobil(3)	795	(4)	791	N
Chevron(4)	644	(43)	601	N
Shell(5)	1,384	223	1,607	0.
Amoco(6)	1,906	123	2,029	0.
Gulf(7)	1,187	(67)	1,120	N
Arco(8)	2,641	279	2,920	0.9

Notes. (1)U.S. Earnings after income taxes.
(2)Worldwide Net OPerating Earnings.
(3)U.S. operating earnings.
(4)U.S. operating profits.
(5)U.S. Net operating income.
(6)Worldwide operating earnings.
(7)U.S. operating income.
(8)Worldwide operating income.

Source: Corporate annual reports.

APPENDIX I

CALCULATION OF REFINERY OPERAITONS NEEDED TO OBTAIN SUFFICIENT GASOLINE INVENTORIES BY JULY 1

The average inventory level necessary to avoid upward pressure on gasoline prices is approximately 230 million barrels on July 1. To obtain this level, it will be necessary to continue to import 300,000 barrels per day and increase gasoline output to 6.7 million barrels a day from the March average of 5.9 mb/d. Assuming no increase in demand over last year for the April - June period, this implies an increase in refinery utilization capacity from 75% to 77%. These calculations are based on current data contained in the EIA's "Weekly Petroleum Status Report.

Mr. SHARP. Thank you, Mr. Rothschild. The Chair now recognizes my colleague from Louisiana, Mr. Tauzin.

Mr. TAUZIN. Thank you, Mr. Chairman. Mr. Robinson, in your statement you indicated that while you didn't think there was a great subsidy behind many of the products produced particularly in OPEC and in other nations that are being imported into this Nation, that the lower cost might be related to lower cost for feedstocks. Is that correct?

Mr. ROBINSON. Lower cost of feedstock and probably also refinery fuel was as well.

Mr. TAUZIN. Aren't those feedstocks owned by the governments in those cases?

Mr. ROBINSON. That I don't know. I would have to furnish that information.

Mr. TAUZIN. I would suggest to you that in the ITC study——

Mr. ROBINSON. I would assume in certain countries which are totally nationalized, yes, they would be owned by the government.

Mr. TAUZIN. In the ITC study that you referred to in your statement, indeed the examples used were nations where the feedstocks are government-owned. In fact, in your statement you indicate that ITC indicated that some of those governments have a $3 to $6 per barrel cost of producing oil and that indeed there may be evidence that they are supplying oil to their refineries at prices below that which they sell the oil on the international marketplace.

Isn't that a government subsidy of a refined product?

Mr. ROBINSON. I might answer that, Mr. Tauzin, with a statement. We have seen that indicative of the domestic companies as well. The production of Alaskan crude oil is one example. Mr. Tell of Texaco alluded to the that these companies, foreign companies in countries were transferring crude oil into refineries at less than the posted price.

We have indications and we have proof perhaps that that is being done domestically as well.

Mr. TAUZIN. There is no question that vertically integrated companies do some subsidies——

Mr. ROBINSON. Same principle.

Mr. TAUZIN. The same principle is involved. The difference I want to point to is here we have a company that is stock owned and within a free market system that is indeed doing some subsidies of downstream integrated product versus a government subsidy in the case of the OPEC nations that were examined in the ITC study.

Isn't that a significant difference?

Mr. ROBINSON. To me, it is the same thing.

Mr. TAUZIN. It is the same thing when you are marketing the oil or the refined product to your customers. But it is a significant difference when we talk about the way our Government relates to imports and exports in my opinion. Here we have a situation where our Government is requiring our free enterprise companies to compete against government inspired subsidies and I am not sure that any free enterprise company in America can win the battle against a Government as big as Saudi Arabia, for example.

Mr. ROBINSON. We feel the same way as an independent jobber competing against the major oil companies.

Mr. Tauzin. I am sure you do. The same thing is involved. Bigness and size certainly are relevant. The question that I think we need to examine as we look at all this is, is the government subsidy arrangement a fair one when we in this country rely upon free market companies to do our supply and pricing in the marketplace.

Mr. Rothschild, you talked about different arguments being made by different people on this new issue. I am intrigued by the arguments you make today that indeed the OPEC cartel is not a cartel and that there was always a free market working out there and it simply respected spot prices.

Weren't you all making a different argument when it came to federal control of oil prices in this country?

Mr. Rothschild. We were saying that OPEC was in fact doing the pricing of oil, say having meetings and pricing the oil but we always took our argument to include the international majors working together with OPEC.

We don't think OPEC by itself was ever a cartel. We never shared that view. I think we simply said that OPEC together with the companies and you can go back in our testimony I think will reflect that.

A lot of other people were always pointing the finger at OPEC but I think that was a mistake.

Mr. Tauzin. The concern that I share with you and others reference to consumer prices and protection of supplies and indeed that free market is that if in fact the OPEC cartel were to achieve its stated goal of being able to have a greater influence in the world pricing than it currently has as I say an influence such as it enjoyed in the 1970's, that is dangerous to consumer interest in this country.

Do you not concede that at some point?

Mr. Rothschild. No, let's examine what happened. Prices ran up during a shortage because there was a panic. There was a panic at every level of the industry, consumers topped off, we had the whole thing.

Mr. Tauzin. Sure.

Mr. Rothschild. Prices went up in the spot market in the 1978–80 period up to $35 to $40 per barrel. The problem is that with OPEC and the companies and everybody wanting to keep prices at that level, unlike other commodities, oil prices didn't come down right away. We had the impact on our economy, on the European economy, on Third World countries. A recession took place. A lot of industry closed down. People invested in conservation.

Demand fell and all of a sudden, that affected the price.

Mr. Tauzin. There was one other element involved.

Mr. Rothschild. But when prices went up and we said the impact on the economy, absolutely have controls on oil and that was the correct solution back then when prices were going up because look at the damage it did to our economy, look at the recession, the double-digit inflation, unemployment.

Mr. Tauzin. We can argue about those effects. I have a different view of what that did but there was one other element involved in that scenario that I don't think we can ignore and that was that the OPEC nations were able to control the output, the supply of product on the market place to a significant degree when their market share was so large.

That is not true in crude today. If it became true in refined product, if the OPEC nations had the element of controlling the output, the supply of refined product available in the world, would not their ability to influence price and, in fact, control markets as they did in the 1970's be reestablished?

Mr. ROTHSCHILD. I don't agree that they had total control of their output. For example, the ARAMCO agreement, ARAMCO partners with Saudi Arabia. The agreement there is that the Saudi's have the power to set the price of their oil, but the partners have the decisionmaking power to decide how much oil they will take at that price. They are not required by the Saudis to take any oil.

As we have seen, Saudi production has plummeted to 2.5 million barrels per day from 10 million. If the Saudis had any power over the ARAMCO partners to tell them how much oil they had to take, they ought to be taking it, but they are not.

The Saudis can only have the power to determine the price and that is also true in other OPEC countries.

Mr. TAUZIN. That is true today. It wasn't true in the 1970's.

Mr. ROTHSCHILD. It was true in the 1970's.

Mr. TAUZIN. I dispute that. Today certainly there are enough other people in the production business worldwide that OPEC can't have that degree of control. They never had total control but the degree of control has certainly diminished.

My point to you is if Jubail comes on line and if other Saudi Arabian efforts and other OPEC nation's efforts including some of our close friends in Venezuela, for example, meet with success their refining capacity, their ability to supply the world markets will have been increased dramatically.

If we permit the kind of dependence upon that refining capacity to reach the levels that we allowed our dependence on crude to reach in the 1970's, might we not be approaching a day somewhere in the 1990's by the figures I have seen when the Saudis will again be able to turn the spigot off and indeed disrupt dramatically the U.S. economy?

Mr. ROTHSCHILD. It is possible but there are other factors. For example, a number of refineries have been wiped out in the Middle East. The Iranian refinery is gone so that a lot of capacity may be absorbed locally in local markets particularly if that doesn't come back.

There are a lot of variables but it is possible. I think we are premature now to say that that is exactly what is going to happen. We don't know what is going to happen.

Mr. TAUZIN. I agree with you. We can't say with exactity.

Mr. ROTHSCHILD. Right.

Mr. TAUZIN. What we are trying to do is to examine the dimensions of a problem that may be with us rather than having to react to it when it develops. I think it is incumbent upon us all to examine those potentials. Isn't that in interest to the consumers you represent as well as the companies who have testified here for their economic interest?

Mr. ROTHSCHILD. I think it is very important to monitor the situation, to examine the possible outcomes, but I don't think there is just one outcome. I think there are a host of outcomes and at this point in time even looking 2 years forward it doesn't appear that we are going to be in serious trouble with respect to imports.

Mr. **Tauzin**. Let me make one point for the farm cooperative and I know I am over time, Mr. Chairman, but it seems like we are all alone here.

We are given information, for example, that in a similar situation such as OPEC countries controlling the feedstock cost to their refineries. But in some cases some chemical manufacturing that is beginning to compete with chemical manufacturing in this country is similarly being manipulated.

For example, the Soviet Union which owns all of its natural gas resources and oil resources is supplying natural gas to ammonia plants at zero base cost which makes ammonia importation into the United States quite attractive and makes it very difficult for ammonia manufacturers here to compete against the Government of the Soviet Union which is basing zero cost feedstock into its plants.

That kind of activity creates again a domestic dependence upon a chemical refined chemical product that is critical to the farm economy. Ammonia as you know is a prime ingredient in fertilizer, again postulating on a dangerous future recognizing that it may or may not develop depending if trend lines continue.

Is it good for the farm economy for us to permit the kind of open market approach that allows foreign governments to create that dependence on vital chemical needs, the farm economy? Is that a good trend in this Nation's history?

Mr. **Howell**. I think, Mr. Tauzin, that is a very disturbing trend, and many of our members are very concerned about that. I believe that Congressman Gibbons' natural resource subsidy bill was brought up earlier. We think that legislation is a good place to start to address that problem. But the whole trend, whether it is on the natural gas side with Mexico, the Soviet Union, some Eastern European countries or here in the imported petroleum product area, is dangerous. I know our board of directors at a recent meeting, was very concerned about it. They passed a resolution that asked the Government to determine what domestic refining capacity should be for our national and economic security needs.

Mr. **Tauzin**. It reaches beyond security. I can envision and I may scare you a bit because I am scared by it, but I can envision a round of grain talks with the Soviet Union and the Soviet Union negotiators say, "Well, we are not too happy with the price and the terms of this deal and would you folks really want to do without ammonia next year since all of your ammonia plants are shut down and we have a significant share of your needs?" That is the kind of admittedly postulating hypothesizing on a future that may or may not develop.

Those are the kinds of trends that disturb me greatly if we are going to look at a policy that hopes to avoid those kind of things. Are you as concerned of any of that as I am?

Mr. **Hancock**. Our union is very concerned about that, Mr. Tauzin. We started seeing the trend develop with the two-tier natural gas pricing for Mexico and in a period of about 2½ years, 36 percent of the United States ammonia industry was forced to shut down.

The workers that we represent could work for zero wages under those conditions and the plant could still not operate profitably.

Mr. **Tauzin**. And never compete.

Mr. **Hancock**. I think we have to determine what our national policy is. We represented thousands of workers who no longer have jobs in the refining industry and the petrochemical industry.

These people were enjoying a standard of living averaging $12 per hour or so and they were laid off and most of those people who found jobs are now making less than $5 per hour. Port Arthur, TX, is economically depressed right now and your State of Louisiana in the petrochemical industry.

We see that same thing happening now in the gasoline and refining industry where other countries subsidize by giving their oil to the refiners. They own the oil. They own the refineries. So they put that oil through the refinery at a low cost and then they come over here and they hold the price of their crude oil up on one side and then they deliver their finished gasoline product here at a price lower than the cost of a U.S. refinery production.

So our refinery companies are forced to pay a higher cost for their crude oil, if they are buying it on the foreign market, than they receive for their finished product on the open market.

Our members are caught in the middle of that scenario. I talked yesterday with one of our locals in Port Arthur, TX, and he was telling me about the catastrophe that is happening to families. The families are splitting up. Wives are leaving husbands because they can no longer support them. Children are being hurt.

We are seeing hundreds of homes lost, cars lost, family possessions lost. Is that the scenario that we want in this country as our policy? I think that we need to do something about it and I think H.R. 1950, and the natural resource bills, are an important way to start forming an industrial policy in this country that says, "Hey, we want to look out for Americans in America."

If we are going to be involved in a world of free trade, then we will play on a level playing field but if you are going to play on a different field, we are going to have to play with you on those same terms.

Mr. **Robinson**. Mr. Tauzin, I would like to add something to that. I do live in a part of the country where fertilizer is a very big item, and you brought up the question about the imports of fertilizer.

There is a very large oil company, one of the largest ones in the world, that has a transshipment terminal near our hometown. They bring in imported ammonia and I will tell you what, you talk about an economy that is depressed. It is the farm economy.

If you don't think these farmers are tickled to death to be able to buy ammonia from a source that is cheaper than domestic sources, then that is one thing that is keeping the domestic price down.

Mr. Hancock alludes to the fact that the refinery workers are having a tough time and I agree, they probably are. But the farmers in this country have every bit as much a problem going right now as some of the other people.

So there is a case where imports are really doing a service to the public and to the farmer.

Mr. **Tauzin**. That, of course, is part of the equation. The concern is, is the short-term benefit of cheaper ammonia products worth it if we are going to lose the domestic refining capacity that will build in place irreversibly for a long time the kind of foreign dependence that will cripple the farm economy down the road.

It is an awful equation we deal with here because we have got jobs on both sides of that equation but the predictions we have and let me read them for you and ask you if you think they are correct.

The Independent Refiners Coalition predicts that if the 1990 figures are correct that they have on imports of light crude products, that we are going to see another 3,000 to 4,000 jobs directly lost in refineries in the country and another 39,000 to 59,000 related jobs lost by 1990 simply by the replacement of 1.4 billion barrels of light product.

Are those figures like the ones you are hearing in the industry among the workers that you represent, sir?

Mr. **Hancock**. Yes. If I could just respond to the gentleman, I own a potato farm in Idaho and so I understand fertilizer costs and I have seen the fertilizer costs jump substantially in the early 1970's but I am telling you that I am more concerned about what is going to happen when we become dependent upon Mexico and the Soviet Union for fertilizer because I have seen the price of fertilizer start to peak and valley like the price of sugar did for some time.

I can see that when we as farmers need the fertilizer for that 6-week period in the spring, that price is going to be way up there and then the price is going to go down after the peak demand.

So I am very concerned about the long-term effects, and I would rather pay the price that I am paying now than I would to pay a double price 5 or 10 years from now for my fertilizer needs.

Mr. **Tauzin**. That is the terrible equation we have to deal with is whether we want short-term benefit and in effect be suckered into the kind of dependence where the price is then controlled by someone on the outside.

You mentioned the two-tier system in Mexico. I have a lot of carbon black plants in my district. They are being targeted. Mexico has targeted 25 percent of America's carbon black manufacturing. That goes directly into tire manufacturing down the way.

To do it, they are providing natural gas at a second-tier price to its carbon black plants so that carbon black imported into this country sells at a price cheaper than the natural gas price to the carbon black producer in America.

That means a cheaper carbon black price to the American automobile manufacturer and a cheaper tire for consumers. All that is good for the consumer short term but is it good for the health of our economy? Is it good long term for the country to have all those people out of work in the plants vital to the industry in this Nation of auto manufacturing and tire manufacturing to have to depend upon countries that may or may not be stable this year and may or may not be friendly in their trade relationships?

I am afraid by all these things and I am very grateful to the chairman for giving us a chance to hear more about it. I thank you for extending such a courtesy, Mr. Chairman.

Mr. **Sharp**. Thank you. Gentlemen, we appreciate your efforts in preparing and being here today to talk about what is an important and obviously a somewhat controversial question. Thank you very much for being with us.

[Whereupon, at 12:20 p.m., the subcommittee adjourned, to reconvene at the call of the Chair.]

[The following statements were submitted:]

Statement

of

L. D. Thomas

President, Amoco Oil Company

Submitted to the

Energy and Commerce Committee

Subcommittee on Fossil and Synthetic Fuels

Washington D. C.

September 10, 1985

On behalf of Amoco Oil Company, I am pleased with the opportunity to provide our thoughts on the current situation in the refining industry to this Committee.

During and after the 1973-74 Arab Oil Embargo, the U.S oil industry was often emotionally criticized for not having foreseen an unprecedented supply disruption and prevented it -- or at least reduced its impact. By contrast, this hearing is a recognition that a strong private sector refining industry is a vital part of the nation's total energy security. Amoco welcomes the change in perception and is happy to contribute to your analysis of this most important issue.

I would like to begin by focusing on actions and investments which refiners have taken that benefit the U.S. supply security of crude oil and products. Then I'll turn to some problems that could return the country to greater vulnerability and to supply disruptions.

Although the U.S. has seen some serious threats to supply in the past ten years, today, we face no shortages of either crude oil or products. But we haven't by any means solved the problems of continuing dependence on foreign energy.

As a realist, I believe that we can view the present adequate supplies and lower prices as a breathing space at best. But as an optimist, I believe we can capitalize on this breathing space and examine:

A) the impact of the Embargo and its aftermath;

B) the strategic steps we have taken to reduce our dependency; and C) what we can do in the future to enhance our future energy security.

From World War II to 1973, the U.S. oil companies largely owned and produced the world's crude oil. The involvement by host governments or by the U.S. government was relatively small.

The market for petroleum products was characterized by extreme competition. Service station dealers attracted customers not only with different grades of gasolines but with premiums like green stamps, or glassware, or free road maps. "Gas wars" or price wars were a common occurrence.

Petroleum products were among the best bargains in the economy. From the middle 1950s through 1973, the price of gasoline slowly but steadily declined in real terms.

The favorable market conditions created by the private sector began to change with the involvement of various governments in the early 1970s. At first governmental involvement took the form of tougher stands in crude price negotiations. Gradually a willingness to use oil as a foreign policy weapon emerged. Ultimately, the idea of an Embargo passed from a threat to a reality. As it did so, the decisions of foreign governments were substituted for those of U.S. companies and the free market.

When the control by foreign governments over U.S. energy was made explicit during the Embargo, the domestic psychological impact was incredible.

Congress and the Administration came under tremendous pressure. They thought they had to do something -- so they did. Unfortunately, instead of protecting the market from the cartel, they tried to protect the consumer from what would have been a short-term market aberration. In so doing, they made it a long-term aberration by replacing the market with a regulatory system of price controls, supply allocations bad economics... and good intentions.

Ultimately, these regulations and intentions grew to 29 volumes totaling more than 80,000 pages.

The tragedy, however, is not that whole forests laid down their lives so these rules could be printed.

The tragedy is that the regulations prevented the restoration of the balance between seller and buyer for years. In doing so, they probably did more to prop up OPEC prices than anything the Cartel could have done on its own.

Everybody on the Committee remembers the reports of the semi-annual OPEC meetings in Vienna. The oil ministers from the different countries would assemble ... debate ... and then announce the price customers would pay for the next six months. There was no input from the OPEC customers. Most importantly, the U.S. was regarded by OPEC as a captive market.

Although energy independence was the stated goal of U.S. regulations, those regulations did nothing to change U.S. consumption patterns -- and nothing to reduce imports. In fact, gasoline consumption and crude oil imports actually increased during the 1973-79 period.

Ultimately, however, the market prevailed. OPEC prices encouraged new drilling activity in non-OPEC areas. Alaskan, Mexican, and North Sea production came onstream faster than they would have otherwise.

To offset the anti-conservation impact of low prices, Congress legislated conservation tax incentives, mandated mileage requirements, and imposed stricter energy saving standards for new construction. But most importantly, gradual and then final governmental Deregulation of crude oil and gasoline prices led to more rational pricing and allocation decisions by consumers.

All of these events diluted OPEC's power and restored the voice of buyers to the marketplace. But that voice could have been restored sooner if the U.S. government had recognized the role of the private sector and the free market in bringing consumers the products they needed. That recognition was long in coming.

The logical movement toward Crude Oil and Product Decontrol and the logic of other pro-supply steps met with consistent and emotional opposition.

The clearest example of the opposition to the pro-supply strategy concerned the long industry campaign to build the Trans-Alaskan Pipeline.

The oil industry officially added ten billion barrels of oil in Alaska to U.S. reserves in 1969. But it took five years of environmental squabbling, an Oil Embargo, and an Act of Congress to even start work on the pipeline. And then it took three more years of construction to finish it -- and a total private sector investment of nearly nine billion dollars.

But consider the value of that investment to domestic supplies: Since the line came onstream, it has brought about four billion barrels of oil to the U.S. Considering the cost of the foreign barrels it replaced, the pipeline has saved $110 billion that would have otherwise gone to prop up OPEC prices outside the U.S. Last year alone, the absence of the line would have added $20 billion to our record Balance of Trade deficit.

While there is nobody who would now want to forego results such as these, initial opposition to the Trans-Alaskan Pipeline was tremendous. In fact, the line was built at a time when there were proposals in Congress to dismember the 18 largest oil companies. Yet today, we can all see the strategic benefits of a strong private sector devoting its resources to preserving and enhancing usable energy supplies.

The country has also benefitted from the massive investment in the refining end of the industry. At the time of the Embargo, the U.S. refining industry was primarily designed to handle light, low-sulfur crudes. During the Embargo some heavy, high-sulfur crudes were available but not acceptable because of the design of the refining system.

In the five years since Deregulation of domestic crude prices the refining industry has spent $19.1 billion to upgrade its refineries to handle a wide variety of different crude oils. Today, thanks to those investments, the U.S. industry is flexible enough to make a slate of high quality refined products from just about any crude oil available.

As a result, the petroleum industry has been able to process lower-grade Alaskan crudes and dilute OPEC's influence over the domestic industry. As more and more of the programs designed and begun two to three years ago come onstream, that result will be still more pronounced.

I make that point explicitly, because even though industry-favored policies have brought us our present breathing space, they haven't brought us total future security. The U.S. marketplace itself isn't completely out of danger.

OPEC countries see they have lost the leverage they once had over the marketplace. They would like to regain it. Given the present crude glut -- in which OPEC's free-world market share has fallen from about 60 percent to about 35 percent -- there seems to be an effort to concentrate on downstream -- or refining -- gains. Cash-rich OPEC countries are building EXPORT refineries at a time when about one/fourth of world-wide refining capacity is going unused.

Such a move is logical for a number of reasons:

One, it would provide product diversification for a crude-oriented economy.

Two, building, and to some extent, operating refineries would provide jobs by refining the crude where it's produced.

Three, it would add value to a potential plant fuel like natural gas which presently has no value where it's produced. Right now, it's frequently flared or re-injected into the well formations.

Four, it would permit countries trapped by quota agreements to disguise overproduction or cut-rate pricing with product sales.

And five, it's not completely cynical to think they might manipulate product prices to replace the political power they have lost over crude oil supplies.

But whatever reasons might motivate a country to integrate downstream for product exports, we should also consider what would motivate against such investment. Traditional economic logic for exporting to existing markets calls for markets characterized by:

A) A price/value differential -- like the one that made the U.S. auto market attractive.

B) Antiquated plants or high-cost labor -- conditions that made the steel industry vulnerable.

C) Inability to meet needs from domestic production -- as is the case with some minerals.

But the U.S. market for refined product is not characterized by any of those traditional criteria:

A) There is no significant price/value differential in refined petroleum products. The average wholesale gasoline price dropped from $1.04 at Decontrol in 1981 to about 78 cents a gallon today. Instead of dropping, if the wholesale gasoline price had merely matched inflation, it would be at $1.30 today which would mean you would pay about $1.75 at the pump.

B) Our product market is not characterized by antiquated plants: As I mentioned, refiners have upgraded their facilities with $19.1 billion in investment. Amoco alone has spent about $1.5 billion.

C) There is no shortage of domestic facilities. Product demand decreased between 1979 and 1983. Over one hundred refineries have closed and the remainder are still operating at only about 75 to 78 percent of capacity.

D) Finally, most companies have shrunk their marketing areas to those where they have some transportation or other edge that will make them more competitive than ever.

These are not the conditions that tempt a businessman to go half way around the world to compete. And I don't think a businessman would do so if he expected to:

pay the same taxes;

AND pay the going price for crude oil and plant fuel;

AND make a return to shareholders;

AND meet the same environmental restrictions;

AND pay the same shipping costs.

But I'm not sure we can expect the same behavior from sovereign governments which own the resources of their countries that we can from independent businessmen. In other commodities, we see government ownership has led to policies based on currency needs, or domestic employment policies -- at the expense of rational pricing behavior abroad. There are international treaties against the more extreme forms of these policies.

Would OPEC governments make anti-marketplace decisions about products that follow government patterns in pricing other commodities?

Point number one, I guess, is that they have manipulated crude oil prices for the last 12 years to the extent they could. I don't know why they would do differently with refined product.

Point two is the international refining situation today:

4 to 4.5 million barrels a day of excess capacity in Europe;
2 million in the U.S.;
1.5 to 2 million in Japan;
another 2 million a day in places like Singapore and the Caribbean;
Or 10 to 12 million barrels of excess capacity in all.

It would take very special justification for any private sector businessman to justify massive construction programs for new capacity under these conditions. For example, it would take an enormous increase in projected demand. But projected demand growth among industrialized and Third World countries is not expected to exceed 4 to 5 million barrels by 1990. And yet, OPEC countries -- in the face of 10 to 12 million barrels of excess capacity -- are adding another 2.5 million barrels to their systems.

If traditional economic logic won't justify this investment, then what does justify it?

Possibly a low cost structure based on low transfer prices of raw materials and plant fuels. Possibly state of the art refineries. Possibly low-cost labor. Maybe different Governmental restrictions: they have no EPA restrictions; no Jones Act for shipping to American ports; and none of the Crude Oil Equalization Taxes and the like enacted since the Embargo.

Why would foreign production come to the U.S. as opposed to other importing countries?

Two reasons: One, we have about one/third of the world's oil demand here -- and, two, we have the world's soundest currency. Nobody else offers this combination of market and money.

Third World countries would be considerably less attractive trading partners. Places like Japan and some European countries which restrict imports would be less attractive still. Unless we can work out some arrangement for other countries -- such as Japan -- to take their fair share of the increasing product exports, U.S. refiners will receive an unfairly heavy impact in competition in domestic markets.

Foreign competitors would have other advantages too: For example, U.S. refining hasn't been able to earn a satisfactory return on investment for several years. As I mentioned, utilization rates are well below profitable levels.

In addition, foreign competitors would have an advantage with plant fuel -- the largest refinery cost after crude oil itself. Amoco is one of the largest refiners in the U.S. In 1984 our bill for plant fuel came to over $700 million -- many times our operating profit that year.

If otherwise unused natural gas could be diverted to plant fuel at its Persian Gulf value, it would be difficult for any U.S. refiner to compete.

In other words, whatever OPEC's rationale in building unnecessary refineries, they have the resources to make them successful -- even if that requires subsidization through a protracted price war.

I have dwelled on the dangers to the U.S. refining system because I think there are definite strategic issues at stake.

First of all, the U.S. possesses a great many world-class refineries. From the standpoint of high-valued gasoline and diesel-fuel products, even our poorer refineries are better than many good ones elsewhere.

As I mentioned, our system has been upgraded by tremendous expenditures to be able to deliver products to U.S. customers from any crude oil available. This system would be jeopardized.

Second, our Strategic Petroleum Reserve now has nearly 500 million barrels of crude oil. It was built on the assumption that we would have a strong refining sector to process that crude in an emergency. A weakened U.S. refinery system would negate much of that SPR advantage -- and in fact, in view of recent closings, the U.S. system is already down to minimal projections for utilizing SPR oil efficiently.

If there were product embargo -- and if the U.S. wanted to maintain a consistent 16 MMB/D which we are currently using -- we would need to have about 15 MMB/D of capacity operating at 90 percent. We're almost down to that now. We opened 1985 with industry refinery capacity reported optimistically at 16.1 MMB/D. Now that's down to 15.6 MMB/D. And we expect it to be at 14.9 by the end of this year. Continued refinery closings could result in insufficient U.S. capacity for processing SPR crudes.

The third strategic issue is that domestic refineries mean security of product supply. Middle Eastern refineries would be within easy reach of terrorists and suicide squads.

Fourth, our supply lines -- as distinguished from supplies -- are here. In World War II, we diverted effort from the War to build product lines onshore because German U-boats were sinking coastal tankers. Today, there would be less problem defending our own coasts. But the tactical and strategic problems in defending supply lines stretching from Persian Gulf refinery gates would require an enormous commitment. I don't see Congress or the Administration ready to make that commitment -- and without it, how could we begin to justify product dependency as an acceptable policy?

Is there a real present threat to the U.S. refining industry?

Yes there is. It comes from a variety of sources. One danger is that the tariff on imported gasoline was set at 1.25 cents a gallon in the 1950s when the wholesale price of gasoline was about 10 cents a gallon. The tariff is still 1.25 cents a gallon today although the wholesale price now is 78 cents a gallon. In fact, the tariff for importing gasoline to the U.S. is one of the few things that costs what it did 25 years ago.

That small tariff,
plus higher labor costs
plus the strong U.S. dollar,
plus our demand for high octane gasolines,
plus the low profitability of today's U.S. refineries,
plus the taxes and regulatory costs domestic refiners face,
add up to a real problem for U.S. refiners.

There are other problems too: For example, some gasoline components can be imported as part of gasoline more cheaply than they could come in on their own. That's a real problem because the gasoline market bears the whole burden of the unintended loophole.

For example, ethanol used in gasoline can now come into the country as a "gasoline component" 59 cents a gallon more cheaply than it could if it entered classed as "ethanol." And it does so.

The problem is real because once in the market, ethanol blends are sold with reduced federal taxes -- and in thirty or so states with reduced state taxes. As a result, they just crowd out domestically refined and fully taxed gallons -- and reduce state and federal revenues.

Refiners are not the only parties to see these problems: The International Trade Commission in April of 1985 affirmed by a vote of 5 to 0 that there is "a reasonable indication of threat of injury" to the domestic refining industry from imported petroleum products.

Further, the ITC has asked the Department of Commerce to investigate the problem and has also begun its own studies on the abuse of the ethanol differential for gasoline blendstocks. Senator Dole has expressed the feeling that such ethanol ought to pay the full ethanol tariff. On the other side, nobody has suggested that the U.S. ought to be subsidizing foreign ethanol producers.

Some observers believe we could control product dependence by restoring the import tariff to its original value relative to the wholesale price of gasoline. While Amoco is not prepared to endorse such proposals either in principle or in specific detail, we do see parties interested in maintaining a strong U.S. refining industry coalescing around such legislation.

We have also noticed recent public opinion surveys which show that people are concerned about becoming increasingly dependent on foreign suppliers for petroleum product -- and are actually willing to pay a premium to preserve or enhance domestic sufficiency especially in vital national security areas.

The U.S. government can't do anything more strategic than provide incentives for more producers, refiners, transporters, and marketers to stay in the marketplace. Permission to OPEC product exporters to import to the U.S. at will may look like it's providing that incentive. But it isn't.

In reality, it's a shortsighted and destructive policy that will permit OPEC to use our market to regain its previous energy supply dominance.

If we don't find a way to monitor and control our imports, we'll see one of two scenarios: Either U.S. refiners will keep their prices down to the point where they would ultimately go out of business. Or they will raise prices to cover their costs and thereby make the U.S. that much more attractive a market for exporting countries. And ultimately our refineries will go out of business.

Whatever defense strategy we decide on to preserve our refining self sufficiency, we should send a clear signal to OPEC -- and to our allies -- that we know a threat to our security when we see one. And a signal that we will not allow a vital industry to wither away while the U.S. becomes the temporary dumping ground for subsidized petroleum products -- and a long-term target for manipulated petroleum product prices.

As I said, we are in a breathing space. It won't last forever. Each day we postpone the decision, we encourage OPEC product exporters that much more. We have nothing to gain by raising their expectations.

Within the memory of everyone on this committee, the U.S. has been at OPEC's mercy twice: In 1973-74, they quadrupled prices. In 1979-80, they doubled prices. In neither case were they primarily concerned about the damage they would do to either the U.S. or to world economies.

Twice is enough.

As the result of those pricing actions, we saw the effectiveness of the U.S. foreign policy threatened. We saw the U.S. oil industry saddled with needless and counter-productive controls from the wellhead to the gas tank. And we saw the U.S. marketplace subject to price dictation by a foreign, anti-market cartel.

By contrast, during the time since Decontrol, we have seen the U.S. industry invest aggressively and prudently in its refineries -- and in conjunction with the Strategic Petroleum Reserve greatly enhance U.S. product supply security. And we have seen record breaking years in private capital expenditures on frontiers of new technology and frontier areas of exploration.

From a strategic standpoint, we can choose between a vital U.S. industry investing in secure domestic crude and product supplies. Or we can allow a myopic view of today's energy surplus to lull us back to greater foreign dependency.

Personally, I don't believe this is the time to put U.S. refined product supplies in the hands of Middle Eastern product exporters. Thankfully, there is no need to do so.

# # #

EXXON COMPANY, U.S.A.
STATEMENT ON PETROLEUM PRODUCT IMPORTS

SEPTEMBER 1985

Exxon appreciates the opportunity to offer its comments to the House Energy and Commerce Subcommittee on Fossil and Synthetic Fuels regarding legislation that would restrict petroleum product imports.

We do not see at this time justification for additional tariffs and/or the imposition of quotas or other quantitative restrictions on U.S. petroleum product imports. Overall, we find few tariff barriers prohibiting imports of petroleum products into other major consuming countries. Current levels of U.S. refining capacity do not lend support to arguments that there is a near-term threat to national security.

However, recognizing that circumstances could change, we believe it is appropriate to continue to monitor the product import situation closely. If unfair trade practices are shown to exist at some time in the future, existing U.S. statutes already provide adequate authority for the U.S. government to take offsetting protective measures. No new protective legislation is necessary. We do, however, support adjustments to the existing tariff schedules to remove uneven treatment of motor gasoline blendstocks, and to stop circumvention of existing tariffs on alcohol imported into the U.S. for use in motor fuel.

U.S. Product Imports

As shown in Table I below, current U.S. net product import levels are not high by historical standards. In 1973, net imports represented about 16 percent of demand. This declined to a low of about 7 percent in 1982, and currently accounts for about 9 percent.

Since 1973, there has been a change in the product import mix. In 1973, most product imports were distillates and heavy fuel oil. Today, motor gasoline and gasoline blendstocks represent a more significant share, while distillate imports have declined. Fuel oil imports also have declined, reflecting reduced fuel oil demand for electricity generation and industrial boiler fuel.

TABLE I
NET U.S. PETROLEUM PRODUCT IMPORTS - MILLION B/D

	1973	1982	1984
Motor Gasoline/Blendstocks	0.2	0.2	0.4
Middle Distillates	0.7	0.1	0.3
Fuel Oil	1.8	0.6	0.5
Total Products	2.8	1.1	1.4
% of Demand	16	7	9

Exxon's petroleum product imports as a percent of supply are not significant. In 1984, total net imports were about 6 percent, with negligible imports of finished clean products such as motor gasoline and distillates.

In recent congressional testimony, petroleum product import data on both a gross and net basis have been used. Currently, the U.S. exports about 500 thousand B/D of petroleum products, mostly distillate, heavy fuel oil, and petroleum coke. Most of these exports could be readily converted to domestic use. As a result, we believe net product imports are a more meaningful measure.

Sources of Product Imports

Proponents of import protection tend to link the recent increase in motor gasoline/gasoline blendstock imports and distillate imports with the new Middle Eastern and African refining capacity. Contrary to the concerns being expressed, most of this increase has come from Latin America, not from the Middle Eastern and African (MEAF) refineries.

TABLE II
NET U.S. PETROLEUM PRODUCT IMPORTS - THOUSAND B/D

	Gasoline/Blendstocks		Distillates	
	1982	1984	1982	1984
Latin America	3	106	2	86
Caribbean	81	82	93	111
China/Romania	33	54	-	-
Europe	31	42	(18)	30
Canada	20	17	10	14
MEAF	12	15	-	25
Total	220	370	55	280
% of Demand	3	5	2	7

Net imports of motor gasoline/blendstocks have increased since 1982 from 220 thousand B/D, representing 3 percent of demand, to 370 thousand B/D, or 5 percent of demand in 1984. The U.S. imports motor gasoline from over 20 countries. During 1984, 106 thousand B/D, or nearly 30 percent of the total, came from Latin American sources, principally Venezuela, Brazil, and Mexico. Another 82 thousand B/D, or more than 20 percent, came from refineries owned by U.S. companies located in the Caribbean. Although not major suppliers of the total range of products, China and Romania supplied another 15 percent. MEAF refineries accounted for 15 thousand B/D, or only about 4 percent of the total.

Net distillate imports increased from 55 thousand B/D, representing 2 percent of demand in 1982, to 280 thousand B/D, or 7 percent of demand in 1984. Like motor gasoline, they originate from a variety of sources. The 1982 levels were at an all time low because of warm weather in the U.S. In 1984, on the other hand, distillate imports were required to supplement short U.S. supplies when unusually harsh winter weather early in the year increased demand and significantly curtailed U.S. refinery operations. During 1984, almost 200 thousand B/D, or nearly 70 percent of the total, came from Latin American and Caribbean sources. There were no net imports from MEAF refineries in 1982, and only about 25 thousand B/D during 1984.

Restrictions in Other Importing Countries

We do not believe that the current international tariff structures represent barriers of sufficient significance to justify raising U.S. tariffs. There are few restrictions to regional international flows of petroleum products. The exceptions are typically for a specific product to individual countries; such as finished motor gasoline to Japan and France.

Both Europe and Japan have higher import duties than the U.S. However, the European Community has been waiving the duties from most countries except the U.S., Canada, and most Soviet bloc sources. While the Japanese duty on gasoline appears high relative to that in the U.S., the differential between crude and gasoline tariffs is about the same. Although the Japanese government does not formally prohibit them, informal suasion has resulted in no motor gasoline imports. On the other hand, the low Japanese tariff on naphtha relative to crude has resulted in significant imports of naphtha for petrochemical feedstocks.

In 1984, Japan's net product imports accounted for 15 percent of its total petroleum demand, compared with only about 9 percent for the U.S. In Europe, based on data available for three quarters of 1984, net product imports accounted for 11 percent of total product demand.

National Security Implications

Some have expressed concern that further U.S. refining capacity rationalization could threaten national security. The question of national security may be relevant at some future time, but the current level of U.S. refining capacity and its utilization suggests that it is not an issue at present. Even though capacity has declined by almost 2.5 million B/D from peak levels in 1981, the first year of U.S. price and allocation decontrol, there is still a large surplus. During 1984, U.S. average operable capacity was about 16 million B/D, well above crude run levels in the 12 million B/D range. Average operable refining capacity utilization in 1984 was only 75%.

TABLE III
U.S. REFINING CAPACITY/UTILIZATION

	1981	1984
Avg. Capacity, Million B/D		
Operable	18.3	16.0
Operating	17.1	14.6
Avg. Utilization, %		
Operable	68	75
Operating	73	83

The current refining capacity is well above the level needed to run the combined total of U.S. domestic crude production (8.8 million B/D) and current maximum SPR drawdown (2.3 million B/D) of 11.1 million B/D. Even with further U.S. refining capacity rationalization, there will likely be adequate capacity to run domestic crude production plus the planned maximum SPR drawdown of 4.5 million B/D. Additionally, spare refining capacity in countries tributary to the U.S., such as the Caribbean, as well as in Europe, would provide possible sources of additional product if needed in an emergency.

Legal Remedies

Should circumstances at any time indicate unfair trade practices by foreign country governments or a legitimate threat to U.S. national security, adequate remedial authorities already are available to the President and Congress.

The General Agreement on Tariffs and Trade (GATT) establishes internationally-accepted remedies to protect against unfair trade practices. These principles are incorporated into existing U.S. trade statutes which provide protection against dumping and foreign export subsidies. Imports can be restricted to protect U.S. industries from "serious injury," or the threat of "serious injury" if imports are the cause. Also, imports can be restrained as necessary if national security is threatened. As a result, no new legislation is needed for this purpose.

Disadvantages of Trade Restrictions

Trade restrictions would damage the U.S. economy through increased consumer petroleum prices, higher inflation, lower real GNP, and higher unemployment. Increased product prices would place U.S. industries at a competitive disadvantage in international markets.

Further, trade restrictions could invite reciprocal foreign reaction. The probable outcome is that everyone would lose -- the volume of world trade would decline, leading to even greater losses in economic efficiency and welfare. Resulting lower foreign GNP would affect debt repayment ability.

Technical Corrections to Existing Tariff Schedules

A separate but related issue concerns the tariff treatment of motor gasoline blendstocks and alcohol. Current anomalies in the schedule allow some motor gasoline blendstocks to enter with a duty of 0.25¢/gallon, while finished gasoline enters at 1.25¢/gallon. We believe the addition of a motor fuel blendstock category in the tariff schedule, with the same duty as motor fuel, is an appropriate means of correcting this anomaly.

Further, we believe that tariffs on imported gasoline/alcohol blends should be structured to tax the components of the product -- the gasoline component at the gasoline rate and the alcohol component at the alcohol rate. Today, pure alcohol imported for fuel is subject to a 60¢/gallon duty; whereas alcohol imported in a mixture with gasoline is dutied at the motor fuel rate -- 1.25¢/gallon. As a result, substantial quantities of gasoline/alcohol mixtures are entering the U.S., primarily from Brazil. We believe modification of the Tariff Schedule provisions to impose a duty on gasoline/alcohol mixtures at the applicable component rates is the appropriate means of closing this loophole.

Summary

Exxon does not at this time see a justification for additional tariffs and/or the imposition of quotas or other quantitative restrictions on the importation of petroleum products into the U.S. We suggest continued monitoring of the product import situation to assure that a national security threat does not develop at some time in the future, and to guard against unfair trade practices by foreign country governments. Also, we support adjustments to existing tariff schedules to remove uneven treatment of mogas blendstocks, and to stop circumvention of existing tariffs on alcohol imported into the U.S. for use as motor fuel.

In general, Exxon supports free trade as being the most efficient means of promoting a competitive, economically viable domestic refining industry. Inappropriate or premature use of protective tariffs or quotas to restrict petroleum product imports may invite reciprocal foreign reaction. In addition, protective tariffs or quotas would harm the U.S. economy by increasing consumer prices, increasing inflation, and reducing real GNP.

STATEMENT OF THE
PETROCHEMICAL ENERGY GROUP

EXECUTIVE SUMMARY

Government regulation of crude oil or petroleum product imports, adopted to protect domestic refiners, could make the U.S. petrochemical industry uncompetitive and the many industries, from pharmaceuticals to automobiles, which are dependent on petrochemical products, unable to compete in world markets.

- The U.S. petrochemical industry is already under strong pressure from foreign producers. Between 1980 and 1983 the industry's exports dropped by 10 percent while petrochemical imports rose by more than 40 percent.
- Loss of markets at home and abroad to foreign competitors also means lost petrochemical industry jobs. For example, Indiana lost a thousand petrochemical jobs from 1980 to 1983. Petrochemical industry employment in New Jersey went from 32,000 jobs to 26,000. Michigan lost 4,000 jobs. Texas and Ohio each lost 2,000 jobs.
- Major new petrochemical facilities in Saudi Arabia and Kuwait have substantial competitive advantages over U.S. producers, according to a recently released study of the International Trade Commission.
- The U.S. petrochemical industry's competitive viability is already under pressure from other government actions, _e.g._, certain feedstocks are already being assessed prohibitively high import duties; the industry also faces proposals to increase taxes to finance Superfund.

Even if one is prepared to accept the adverse economic consequences, before adopting federal regulation of oil imports Congress should study the unhappy experience with such regulation in the recent past.

- In 1958, the Mandatory Oil Import Program imposed a quota on oil imports. The system became one of subsidies, politics and indirect price controls on domestic oil.
- In the late 1950's, the United States' share of world chemical exports was 23%. After the Mandatory Oil Import Program was instituted we faced high feedstock costs in the U.S. while crude oil and naphtha prices in world markets were depressed. It became cheaper to produce petrochemicals in Europe and Japan. From 1958 through 1971, European and Japanese investment in new plants was 50% to 100% higher than U.S. levels.

- As a consequence, in 1972 European sales of chemicals exceeded U.S. sales for the first time. The U.S. share of world chemical exports fell to 14%.

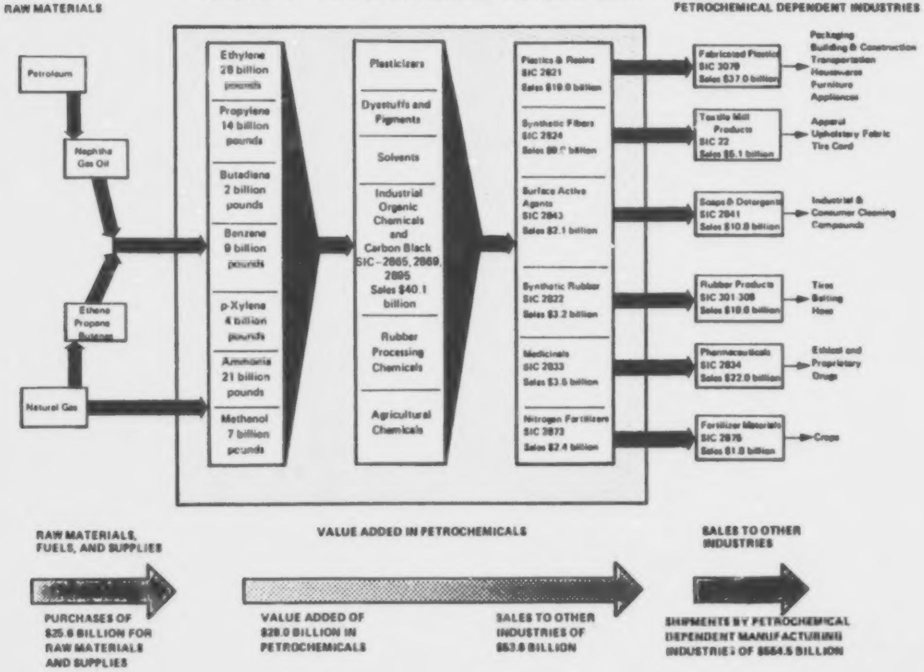
Petroleum product import limitations are strong medicine. Those advocating these measures should be able to show a correspondingly strong need. PEG's review of the evidence fails to reveal changes in import patterns that would warrant such a strong response at this time, though we agree that possible problems should be closely watched.

- In the most recent month for which data is available, July 1985, API year-to-date estimates show U.S. imports of crude oil down by 8.5 percent and imports of petroleum products down by 12 percent compared to 1984. July was the eighth consecutive month for which petroleum product imports were below year-earlier levels.

- In 1984, total gasoline and gasoline blending components averaged 370,000 B/D, or only 6 percent of the United States' total gasoline demand.

- In an April, 1985 study the ITC concluded that EPA's new rules reducing the lead content of gasoline will cause imports of leaded gasoline to decline dramatically.

FIGURE 1 THE PETROCHEMICAL INDUSTRY — 1983


RAW MATERIALS
PETROCHEMICAL DEPENDENT INDUSTRIES
Petroleum
Naphtha Gas Oil
Ethane Propane Butanes
Natural Gas
Ethylene 28 billion pounds
Propylene 14 billion pounds
Butadiene 2 billion pounds
Benzene 9 billion pounds
p-Xylene 4 billion pounds
Ammonia 21 billion pounds
Methanol 7 billion pounds
Plasticizers
Dyestuffs and Pigments
Solvents
Industrial Organic Chemicals and Carbon Black SIC-2865, 2869, 2895 Sales $40.1 billion
Rubber Processing Chemicals
Agricultural Chemicals
Plastics & Resins SIC 2821 Sales $19.0 billion
Synthetic Fibers SIC 2824 Sales billion
Surface Active Agents SIC 2843 Sales $2.1 billion
Synthetic Rubber SIC 2822 Sales $3.2 billion
Medicinals SIC 2833 Sales $3.5 billion
Nitrogen Fertilizers SIC 2873 Sales $2.4 billion
Fabricated Plastics SIC 3079 Sales $37.0 billion
Textile Mill Products SIC 22 Sales $5.1 billion
Soaps & Detergents SIC 2841 Sales $10.8 billion
Rubber Products SIC 301-306 Sales $10.6 billion
Pharmaceuticals SIC 2834 Sales $22.0 billion
Fertilizer Materials SIC 2875 Sales $1.8 billion
Packaging
Building & Construction
Transportation
Housewares
Furniture
Appliances
Apparel
Upholstery Fabric
Tire Cord
Industrial & Consumer Cleaning Compounds
Tires
Belting
Hose
Ethical and Proprietary Drugs
Crops
RAW MATERIALS, FUELS, AND SUPPLIES
VALUE ADDED IN PETROCHEMICALS
SALES TO OTHER INDUSTRIES
PURCHASES OF $25.6 BILLION FOR RAW MATERIALS AND SUPPLIES
VALUE ADDED OF $28.0 BILLION IN PETROCHEMICALS
SALES TO OTHER INDUSTRIES OF $53.6 BILLION
SHIPMENTS BY PETROCHEMICAL DEPENDENT MANUFACTURING INDUSTRIES OF $564.5 BILLION

SOURCE: 1983 Petrochemical Industry Profile, Arthur D. Little, Inc., September 1, 1984

Arthur D. Little, Inc.

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This statement is submitted by the Petrochemical Energy Group (PEG). PEG is a group of independent petrochemical companies--those which are not vertically integrated with major refiners. Our member companies are producers of petrochemical intermediate products such as ethylene, methanol and ammonia as well as of downstream products such as plastics, fibers, synthetic rubber, fertilizers and pharmaceuticals.

PEG is concerned that limitations on crude oil or petroleum product imports adopted to protect domestic refiners will make uncompetitive the U.S. petrochemical industry and the many domestic industries, from pharmaceuticals to automobiles, which are dependent on petrochemical products. The diagram on the first page of this statement describes the many industries that will feel the effects of chemical prices artificially increased by a quota or other limit on the petroleum products our industry uses as raw materials.

The Petrochemical Industry

The U.S. petrochemical industry is vital to the economic welfare of the United States, and is a key contributor to the nation's trade balance. U.S. petrochemical industry sales in 1984 are estimated at over $90 billion. 1/

1/ United States Department of Commerce, 1985 Industrial Outlook, January, 1985, p.11-2.

The industry employed 364,000 people, 2/ and invested $4 billion in new plant and equipment in the U.S. 3/ The industry made a $7 billion positive contribution to the national balance of trade in 1983. 4/ Nevertheless, this represents a 23 percent decline from the U.S. petrochemical industry's positive balance of trade of $10.3 billion in 1980. 5/

Imposition of an artificial price increase on the industry's petroleum raw materials would make it more vulnerable to foreign competition. Loss of markets at home and abroad to foreign competitors means loss of petrochemical industry jobs. This loss of jobs is felt most strongly in the states with a high concentration of their employment in the petrochemical industry. Indiana, for example, which has the thirteenth highest ratio of petrochemical employees to the total number of workers employed in the state, lost a thousand petrochemical jobs from 1980 to 1983. New Jersey, ranked sixteenth, a large petrochemical producer, went from 32,000 petrochemical jobs

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2/ Arthur D. Little, Inc., 1983 Petrochemical Industry Profile, September 1, 1984 (hereinafter "1983 Petrochemical Industry Profile").

3/ Id.

4/ Trade Trends in Petrochemicals: 1983, A Report to the Petrochemical Energy Group, Arthur D. Little, Inc., August, 1984 (hereinafter "Trade Trends in Petrochemicals: 1983").

5/ Id.

to 26,000, a loss of 6,000 jobs. Michigan, another large producer, ranked tenth, lost 4,000 jobs. Other states with a high concentration of employment in the petrochemical industry, Texas and Ohio, each lost 2,000 jobs. 6/

These employment declines, of course, correlate with loss of markets at home and abroad. Between 1980 and 1983 our industry's exports dropped by 10 percent while petrochemical imports rose by more than 40 percent.

U.S. producers' place in petrochemical world markets is becoming increasingly difficult to maintain. In particular, major petrochemical facilities in Saudi Arabia and Kuwait are presently coming on stream. Their output is targeted for export markets. 7/ A study recently released by the International Trade Commission indicates these facilities, as well as petrochemical plants in some other resource rich countries, have significant competitive advantages in U.S. and world markets, even if foreign governments do not adopt unfair export subsidies. 8/

6/ Compare, Arthur D. Little, Inc., 1980 Petrochemical Industry Profile, August 1, 1981 with 1983 Petrochemical Industry Profile.

7/ The Probable Impact on the U.S. Petrochemical Industry of the Expanding Petrochemical Industries in the Conventional-Energy-Rich Nations, Final Report on Investigation No. 332-137 Under Section 332(b) of the Tariff Act of 1930, USITC Publication 1370, United States International Trade Commission, April 1983, pp. 63 and 86-7.

8/ Potential Effects of Foreign Governments' Policies of [Footnote continued]

The members of PEG are not seeking protection for their chemical products. We will do everything we can to stay competitive. But we face an uphill battle. We do not ask for protection, but we do ask that the advantages enjoyed by our foreign competitors not be increased by imposing government regulation of U.S. oil markets. If the Congress adopts a policy of crude oil or petroleum product import regulation, by imposing quotas or fees, our industry's ability to compete will be very much in question.

The Impact of Import Fees or Quotas

Whether an import quota or fee is imposed on crude oil and petroleum products or only on products the economic effect would be substantially the same. Such a limitation on imports can be expected to raise the cost not only of imported oil and products, but also of domestic crude oil and products. Evidence of this, if any is needed, can be found in the studies done by the Congressional Budget Office (CBO) this year. CBO said that a $5.00 per barrel oil import fee would raise about $9 billion a year, 25% of which would come from the windfall profit tax, "since an import fee would allow the price of all domestically produced oil

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[Footnote continued]
Pricing Natural Resources, Final Report on Investigation No. 332-202 Under Section 332(b) of the Tariff Act of 1930, USITC Publication 1696, United States International Trade Commission, May 1985.

to increase, thereby increasing the windfall profit and tax on each barrel." 9/

The broad economic consequences of an oil import fee were described in a series of government and private studies in 1982. 10/ Those reports found that a $5 per barrel import tax on crude oil and petroleum products (equivalent to about 12 cents per gallon) would:

- Increase inflation 1.2 percentage points in the tax's first year; 11/

9/ Congressional Budget Office, Report to the Senate and House Committees on the Budget, Reducing the Deficit: Spending and Revenue Options at 239 (February 1985).

10/ See Energy Information Agency, Memorandum, Economic Impacts of an Oil Import Fee, (March 19, 1982) ("EIA Memorandum"); Gelb, Bernard A. and Hull, Everson W., Congressional Research Service, The Library of Congress, Revenue and Macroeconomic Impacts of an Oil Import Tax: A Brief Review, (April 6, 1982) (Gelb, CRS); Kumins, Larry, Congressional Research Service, The Library of Congress, Background on Oil Import Fee Proposals: Some Policy and Economic Considerations, (April 7, 1982); Congressional Budget Office, Oil Import Tariffs: Alternative Scenarios and Their Effects, Staff Working Paper, (April 1982) (CBO Staff Working Paper); Bodde, Dave, and Webre, Phillip, Natural Resources and Commerce Division, Congressional Budget Office, Memorandum: Oil Import Fees, (March 22, 1982); Consumer Energy Council of America Research Foundation, A Comprehensive Analysis of the Impact of a Crude Oil Import Fee: Dismantling a Trojan Horse, (April 1982) (CECA); Petroleum Industry Research Foundation (PIRF), The Oil Import Fee Issue, (April 19, 1982).

11/ EIA Memorandum, Appendix.

- Increase unemployment .3 to .5 percentage points; 12/
- Reduce real GNP by .4 to 1.4 percent. 13/

Raising the price of crude oil and/or products in this country above that of the world market necessarily results in an increase in the production costs of the domestic petrochemical industry, particularly the independent sector of that industry. Petrochemical feedstocks come predominantly from the tailgate of refineries and gas processing plants, and some petrochemical feedstocks are imported. The rise in the cost of feedstocks and fuels above world market prices will further erode our industry's ability to compete in several significant ways:

First, foreign competitors who pay world oil market price levels or, in some cases, lower than world prices for their raw materials, can expand their export trade as our own products cease to be competitively priced.

Second, foreign competitors will have an added competitive advantage to use against us in the competition for the United States' own domestic markets.

Third, U.S. industries which use domestic petrochemical products as their manufacturing inputs will find

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12/ EIA Memorandum, Appendix; Gelb, CRS, Table 2, p.9; CECA, p.5 and Table 1, p.7.

13/ EIA Memorandum, Appendix; Gelb, CRS, Table 2, p.9; PIRF, p.6; CBO Staff Working Paper, Table 3, p.10; CECA, Table 1, p.7.

that their costs increase, whether the product comes from the U.S. or abroad, and this impact will be felt throughout the United States in higher prices for such diverse products as medicines, pharmaceuticals, textiles, paints and coatings, plastics, automobiles, fertilizers and pesticides, and a host of other consumer products. This, in turn, forces on these manufacturers of consumer goods the same problems that will face the petrochemical companies: less exports, more imports, loss of markets--with the resulting impacts on employment and balance of payments.

In a study completed in 1984, the consulting firm of Arthur D. Little, Inc. concluded that 1983 shipments of U.S. petrochemical-dependent industries amounted to a value of $567 billion. The combined production value of the petrochemical and petrochemical-dependent industries in 1983 was some 31 percent of total U.S. manufacturing production. 14/

In a study commissioned by the Chemical Manufacturers Association (CMA), SRI International studied the impact of crude oil import fees on the petrochemical industry's competitive position in world markets and the industry's ability to pass the increased costs through to the consumer in view of that global competition. SRI analyzed plants producing ethylene and its derivatives:

14/ 1983 Petrochemical Industry Profile, p. 32.

polyethylene, ethylene glycol, and polyvinyl chloride. SRI found that if U.S. producers of these materials attempted to pass on the costs associated with a $2-per-barrel crude oil import fee, their export sales would decline by 22%, imports would increase by 14%, and profits would decline by $200 million per year. An attempt by producers of the above-described materials to pass on a $10-per-barrel fee results in the loss of 87% of all export sales, a 90% increase in imports, and a $700 million decrease in profits. 15/

The petrochemical industry's competitive viability is already under pressure from other government actions. Certain of our feedstocks, due to the arbitrary reclassification of certain naphthas, are being hit with prohibitively high import duties. 16/

15/ Energy Taxes and the U.S. Chemical Industry, Final Report, July 1984, SRI International; and Supplementary Report, January 1985, SRI International.

16/ Certain naphthas with minimal percentages of benzenoid chemicals are being reclassified as chemical mixtures and tariffed as dutiable benzenoids. Our members report that as an economic matter it is not feasible to remove these dutiable benzenoid chemicals for separate use. These changes in administration of the tariff schedules appear to be the result of pressure from some in the U.S. refining industry to protect refiners against imports of gasoline and gasoline blending stocks. But an unintended side effect has been to increase the cost of some naphtha feedstock shipments for the petrochemical industry to such high levels that use of these imported naphthas are effectively denied U.S. petrochemical producers. *See* Testimony of R.J. Birdwell on Behalf of the Petrochemical Energy Group, before the International Trade Commission, Investigation No. 332-203, March 7, 1985. Legislation [Footnote continued]

The petrochemical industry also faces proposals for massive increases in taxes paid to finance the Superfund. Its foreign competitors face no similar tax from their governments. 17/ A recent Congressional Research Service (CRS) study 18/ concluded that the increased costs from one legislative proposal which would increase Superfund feedstock taxes would result in reduced domestic production and employment whether or not the industry absorbed the increased costs or passed them along in the form of higher prices. 19/

[Footnote continued] has been introduced regarding changes in classifications and we have proposed amendments which would correct this problem in particular (see attachment for proposed amendment to Rep. Anthony's (D.-Ark.) bill, H.R. 2354).

17/ Environmental Protection Agency, Office of Solid Waste and Emergency Response, Impact of CERCLA Taxes on the U.S. Balance of Trade, CERCLA Section 301(a)(1)(E) Study, p.2-1 (December 1984).

18/ Lazzari, Salvatore and Gelb, Bernard A., Congressional Research Service, The Library of Congress, Proposed Superfund Tax Increases and The U.S. Petrochemical Industry: An Economic Analysis, p.25-27 and 28-31 (a study based on H.R. 5640, passed by the House last year).

19/ Other current Superfund proposals include H.R. 2022, which proposes a tax on feedstocks that would have virtually the same affect on the petrochemical industry as H.R. 5640; H.R. 2560, which proposes to raise $10.1 billion, as did H.R. 5640, but through unspecified levels of tax on feedstocks, waste, chemical imports and other unspecified taxes; S. 51, which was recently approved by the Senate Finance Committee and would not increase the existing feedstock tax.

Historical Perspective

The adverse impact of import quotas or fees on our competitive position and on that of the industries downstream of us is too high a price to pay for whatever possible benefits are claimed. And oil import restrictions have a broad, adverse effect on the overall economy, as government studies cited in this testimony document. But in addition, the history of prior experience with oil import fees and quotas should be studied before Congress moves in this direction.

Much of this experience is documented by "The Oil Import Question: A Report on the Relationship of Oil Imports to the National Security" by the Cabinet Task Force on Oil Import Control (February 1970). 20/ That report deals with the period when "cheap" foreign crude oil was the driving force. Perhaps one quote will suffice to make a point: "Without import controls the domestic wellhead price would fall from $3.30 per barrel to about $2.00, which would correspond to the world price. Although we cannot exclude the possibility, we do not predict a substantial price rise in world oil markets over the coming decade." 21/

20/ Cabinet Task Force on Oil Import Control, The Oil Import Question A Report on the Relationship of Oil Imports to the National Security, (1970).

21/ Id., p. 124.

It would be difficult to describe briefly the elaborate bureaucracy it took to decide who got access to the cheap foreign oil and in what proportion, but a shorthand description would be that the system became one of subsidies, heavily influenced by political considerations, and a system of indirect price controls on domestic oil, since the levels of imports could be adjusted to offset or influence the allowables then set for production of oil in this country. Petrochemical companies also sought, and eventually obtained, access to the right to import foreign oil in order to bring their costs closer to the prices paid by domestic and foreign competitors and to obtain the ability to import oil to manufacture export products in an effort to keep foreign markets.

In the early seventies, the prediction on world oil prices of the Task Force went out of the window. Foreign oil prices escalated sharply. Almost overnight, the issue became not how to get access to cheap foreign oil, but how to get access to cheap domestic oil, if any oil at all. The Congress passed the Emergency Petroleum Allocation Act of 1973 and subsequent amendments, drastically adding to a bureaucracy which overlay and incorporated the oil import program. The result was a nightmare of price and allocation controls, with the subsidy aspects of both domestic and foreign oil largely allocated through an "entitlements" program which still lives on in the Courts and before the Department of Energy.

In addition, empirical data indicates that an ominous long-term change in U.S. petrochemical producers' international market share followed from increasing by quotas and fees U.S. petrochemical feedstock costs above those of foreign producers. New investment in the petrochemical industry shifted to areas having access to cheaper petrochemical feedstocks and in due course world market share shifted as well.

In the late 1950's, the United States' share of world chemical exports was 23%. 22/ In 1958, the Mandatory Oil Import Program was instituted, and oil imports into the United States were restricted until 1973. With the imposition of oil import controls, U.S. crude oil producers were partially insulated from price competition. With high feedstock costs in the U.S., and depressed crude oil and naphtha prices in world markets, it became cheaper to produce petrochemicals in Europe and Japan. This resulted in an extended period during which new investment was made in Europe and Japan beyond the needs of industry to meet local demands. From 1958 through 1970, European and Japanese chemical investments were 50% to 100% higher than

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22/ Trade Trends in Petrochemicals: 1983, A Report To The Petrochemical Energy Group, Arthur D. Little, Inc., August, 1984, pp. 18-19.

U.S. levels, on the basis of investment per dollar of sales. 23/

This high level of investment lasted until 1971. In 1972, European sales of chemicals exceeded U.S. sales for the first time. 24/ In this same year, the U.S. share of world chemical exports fell to 14%. 25/ Appendix 2 indicates the extent to which the Europeans and Japanese have gained in net exports.

To summarize our historical experience with crude oil and petroleum product quotas and fees: (1) they generated an extensive, complex and inequitable governmental involvement in the producing, refining, and petrochemical industries; (2) they failed to prevent a growing U.S. dependence on foreign crude oil and refined products; (3) they forced capital investment in petrochemical facilities to be made outside the U.S. and subsequently the world market share of these foreign producers increased while U.S. market share declined.

Current Import Pressures

Petroleum product import limitations are strong medicine. Those advocating these measures should be able to

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23/ The Impact of Changing U.S. Feedstock and Energy Costs on the Petrochemical Industry and the Economy, A Report to The Petrochemical Energy Group, Arthur D. Little, Inc., April, 1981, pp. 5-14.

24/ Id.

25/ Trade Trends in Petrochemicals: 1983, supra, at p. 18.

show a correspondingly strong need. Our review of the evidence fails to reveal changes in import patterns that would warrant such a strong response at this time, though we agree that possible problems should be closely watched.

In 1973, the U.S. imported 3 million B/D of petroleum products, or about 17 percent of total U.S. oil consumption. By 1984, petroleum product imports had declined to 2 million B/D, but more significantly, represented only 13 percent of U.S. oil consumption. 26/ Nearly 60 percent of these product imports come from U.S. possessions, U.S.-owned refineries in the Caribbean, or from U.S. OECD allies. 27/ In recently released data for the month of July, 1985, API year-to-date estimates show U.S. imports of crude oil down by 8.5 percent, while imports of all

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26/ Testimony of Danny J. Boggs, Deputy Secretary of Energy, Before The Environment, Energy and Natural Resources Subcommittee of the Committee on Government Operations, U.S. House of Representatives, April 2, 1985.

27/ A more complete breakdown of these imports is as follows:

U.S. possessions or U.S.-owned refineries in the Caribbean	37%
Other OECD nations	21%
Venezuela	15%
Other OPEC	7%

The Changing Structure of World Refining Industry: Implications for U.S. Energy Security, Prepared by OPEC Downstream Project, Resource Systems Institute, East-West Center, Honolulu, Hawaii, For Presentation to the United States Department of Energy, January 23, 1985, at p. 30.

petroleum products have decreased by 12 percent, compared to last July. 28/ July marked the eighth consecutive month that imports have been below year-earlier levels.

In 1984, total gasoline and gasoline blending components averaged 370,000 B/D, or only 6 percent of the United States' total gasoline demand. 29/ In an April, 1985 study the ITC concluded that EPA's new rules reducing the lead content of gasoline will cause imports of leaded gasoline to decline dramatically. 30/ Since nearly 60 percent of United States' gasoline is now unleaded, 31/ the EPA action may reduce current gasoline import levels.

Of course broad economic forces such as the strength of the dollar and of the U.S. economy compared to other economies are largely responsible for the general trend of increasing imports of a variety of products. The

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28/ Monthly Statistical Report, July, 1985, Vol. 9, No. 7, prepared by the American Petroleum Institute Statistics Department, August 14, 1985. See also, Weekly Petroleum Status Report, Data For Week Ended: August 23, 1985, p. 14, Energy Information Administration (August 29, 1985).

29/ Testimony of Danny J. Boggs, supra.

30/ Possible Effects and Recommendations Concerning the Proposed Tariff Reclassification of Catalytic Naphtha and Other Motor Fuel Blending Stocks, Final Report on Investigation No. 332-203 Under Section 332(g) of the Tariff Act of 1930, USITC Publication, United States International Trade Commission, April 1985, p.xi.

31/ Id. at p.25.

petroleum refining industry is not unique in facing pressure from imports.

Those in the independent petrochemical industry can sympathize with our colleagues in the refining industry faced with pressure from foreign producers. Indeed, the decline in our industry's favorable trade balance during 1983 and 1984 has been caused more by increased petrochemical imports into the U.S. than reduced exports. 32/ But the imposition of a crude oil or petroleum product import limitation will weaken the competitive position of the manufacturing industries downstream of crude oil and petroleum product production and very possibly force these other industries to come to the Congress with their claims for protection.

The independent petrochemical industry joined many other industries in welcoming the termination of oil price and allocation controls, including the oil import program. It would be a drastic step backward into time and to reregulation of the energy and petrochemical industries to resurrect an import control program now.

32/ See, Trade Trends in Petrochemicals: 1983, p. 26.

99th CONGRESS
1st Session

IN THE HOUSE OF REPRESENTATIVES

Amendment to H.R. 2354

To clarify the classification of certain petrochemical feedstocks described as both a petroleum product and a benzenoid chemical.

On Page 3, strike line 16 and insert in lieu thereof:

"(2) by amending item 475.35 to read as follows:

475.35	Napthas (including petrochemical feedstock naphthas) derived from petroleum, shale oil, natural gas, or combinations thereof (except those to be used as motor fuel or motor fuel blending stock)........................	.25¢ per gal.	.5¢ per gal

(3) by amending headnote 1 by inserting after the phrase, "except fuel oils, motor fuel," and before the word "and", the words "petrochemical feedstocks"."

On page 3, line 17, strike "(3)" and insert in lieu thereof "(4)"

On page 4, strike lines 3-4 and insert in lieu thereof:

"(5) by adding after subdivision (b) of headnote 2 the following new subdivisions:"

On Page 4, after line 9 insert the following:

"(d) "Petrochemical feedstock" is any product provided for in this Part 10, however produced, derived from petroleum, shale oil, or natural gas, or combinations thereof (except motor fuel) which is actually used as a feedstock for petrochemical production."

Text Of Floor Statement To Accompany Naphtha Imports Amendment

By Mr./Ms. ____________________:

An amendment to H.R. 2354 to clarify the classification of certain petrochemical feedstocks described as both a petroleum product and a benzenoid chemical.

Mr./Ms. ___________. Mr. Speaker, I am today introducing an amendment to H.R. 2354 which would clarify the tariff treatment the U.S. Customs Service should accord certain petrochemical feedstocks.

The petrochemical industry is a major contributor to the overall U.S. economy. Petrochemicals appear in a wide variety of products which we consume and use every day: medicines, plastics, automobile parts, and textiles, to name just a few. We have all benefitted from the U.S. petrochemical industry's ability to keep the cost of these products low. In addition, in spite of the high value of the dollar which has hurt so many other American industries, the petrochemical industry has remained a net exporter--a positive contributor toward reducing our balance of trade problems.

However, to compete in world markets, this industry must have access to raw materials, referred to as feedstocks, that are priced at competitive levels in the world marketplace. If the costs of these raw materials exceed those costs incurred by foreign competitors, U.S. petrochemical producers simply cannot produce competitively priced products. The U.S. industry's exports will decline, while overseas manufacturers will gain the market share lost by U.S. producers. More American jobs will be lost while we continue the export of our manufacturing employment.

We are faced with just such a possibility. High tariffs currently being levied on certain types of imported naphthas used for petrochemical feedstocks are blocking the industry's access to an import source of raw materials available to foreign petrochemical producers. We must not allow this to continue.

The amendment I am introducing today will clarify that these petrochemical feedstock naphthas should not be assessed the high tariffs applicable to benzenoid chemicals but currently being applied in some cases to naphtha for feedstock use. This amendment will issure that these feedstocks will remain available to the U.S. petrochemical industry. I urge my colleagues to support this amendment, and with it, support the continued vitality of the U.S. petrochemical industry.

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OIL OUTLOOK: PRICE, SUPPLY, MERGERS, IMPORTS, AND TAXES

THURSDAY, NOVEMBER 7, 1985

House of Representatives,
Committee on Energy and Commerce,
Subcommittee on Fossil and Synthetic Fuels,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:06 a.m., in room 2322, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. **Sharp**. The subcommittee will please come to order. Today's hearing will address the question of the effects of proposed changes in the tax laws that may affect the production of oil, gas, and coal in this country. We are all very much aware of how critical these industries are to the American economy, American security and hopefully aware that there have been dramatic changes in these industries, particularly in oil and natural gas, over the last several years that warrant a careful examination of any significant Federal policy changes that will affect future production in this country.

So we are delighted today to have a number of witnesses. Before I recognize our first panel, I will ask my colleagues if they have brief opening statements—I say brief, so we can spend most of our time hearing our witnesess. But I am delighted to recognize our distinguished Republican colleague, Jack Fields, from Texas.

Mr. **Fields**. Mr. Chairman, we have a number of witnesses. I will forego an opening statement and congratulate you on having this hearing. I think it is very important and very timely.

Mr. **Sharp**. I appreciate that. The gentleman in seniority, Mr. Synar from Oklahoma?

Mr. **Synar**. Again, I will do the same thing. I will follow Jack and let's get on with the witnesses.

[The prepared statement of Mr. Synar follows:]

Statement of Hon. Mike Synar

Mr. Chairman, I want to thank you for calling this hearing today. In addressing the issue of tax reform I think it's extremely important that we view changes in the tax code, and the resulting effects on energy development, in context with the many other dramatic changes underway in the industry today. Too often, we in Government have the tendency to isolate specific issues without due regard to their vital relationship to the larger policy questions at hand. We sometimes lose sight of the forest as we wander through the trees.

In this context, we must remember that the economic recovery experienced by many sectors of our Nation's economy has not, and may not for some time, come to the oil patch. The clear overriding cause continues to be declining energy prices. As prices decline so do production prospects. In addition, the recent merger activities, which concentrate capital in debt-financing and diminish exploration and development resources, likewise reduce production prospects. I would add to this FERC's proposed gas pricing changes—the so-called "Block-Billing" which this Subcommittee will be examining next week—and its potential for decreasing natural gas production. The bottom line is that we must keep in mind the cumulative consequences of all of these related activities, both within Government and within industry, as we consider the various energy tax changes proposed thus far.

A June, 1985 Interstate Oil Compact Commission study estimates that the President's proposed tax changes for percentage depletion alone will on average reduce oil and gas revenues by nearly $300 million per year, cut production by over 40,000 barrels per day and result in the loss of over 46,000 jobs every year. These impacts alone are not insignificant. In context with other activities I mentioned, they may be devastating.

Of obvious concern with tax reform is the continued viability of a strong and healthy domestic energy industry. Of particular concern to me is the economic viability of the independent producer. For it is the small independent producer, more often than not, leading the search in high-risk exploration. It is the independent producer who maintains a healthy competitive environment in the industry. In considering tax reform proposals, we must therefore be particularly conscious of the economic impact such proposals will have on these independents. For in the end, it is a question of survival—the ability to stay in business and maintain incentives for growth. I am seriously troubled that the proposals under consideration today threaten such survival.

In viewing tax reform we must therefore maintain a standard of business prudency. If we maintain a standard sufficient to allow the independent entrepreneur to survive and compete, including incentives and opportunities for growth, then I am confident that we will also maintain an adequate level of exploration, production and competition to assure a healthy domestic industry.

In this regard I would like to extend a personal welcome to Mr. George Singer, who I believe is particularly qualified to address these issues.

Mr. SHARP. Mr. Hall of Texas.

Mr. HALL. Thank you, Mr. Chairman. I, of course, certainly agree that brevity on our part is called for because I have seen the array of witnesses that we have, and I think it is certainly something that this committee and this Congress needs to listen to. And I want to thank the chairman who has not always totally agreed with my position on regulation and deregulation, but a guy who has been totally fair and accommodating.

Mr. SHARP. The gentleman from Texas has not been reluctant to indicate his position, to fight for it, and the Chair appreciates that.

The gentleman from Louisiana, Mr. Tauzin.

Mr. TAUZIN. Yes, I will, too, be brief. I want to thank the chairman for scheduling these hearings. I'm sure all in attendance know the Ways and Means Committee is meeting literally behind closed doors discussing this very serious issue. This will be the first attempt to give it a public airing, and, I think, we can learn a lot and perhaps communicate some good information to members of the committee by reason of this public hearing.

And I think the Chair deserves an awful lot of credit for undertaking this initiative. Thank you very much.

Mr. SHARP. We do not have jurisdiction over what the Tax Code looks like, but we are very concerned about what happens to production and distribution and consumption of fuels in this country, and therefore, it is a very relevant issue to our committee.

Mr. Dowdy of Mississippi.

Mr. DOWDY. I want to thank the chairman for calling the hearing, and I have an opening statement which I would ask be made a part of the record.

Mr. SHARP. It will be made a part of the record.

[The prepared statement of Mr. Dowdy follows:]

STATEMENT OF HON. WAYNE DOWDY

Thank you, Mr. Chairman. I'd like to associate myself with the comments of my colleagues commending you for scheduling this important hearing on the impact of various tax proposals on the oil, gas and coal industries. I welcome this opportunity to hear representatives of the oil and gas community confirm or disavow the reports that many of us have heard about the effects that recent activities have had on their industries. As a representative of a state which relies heavily on the oil and gas industry to supplement its economy, I am personally very concerned with the proposals which are before us.

U.S. over-dependence on foreign oil sources is a practice which I am sure that none of us relish. However, recent FERC rulings which I consider discriminatory against industrial end users of natural gas and independent producers, the drop in the level of drilling and the decline in the price of oil and natural gas, frankly have me alarmed. These practices coupled with the various tax proposals to eliminate the percentage depletion deduction and the deduction for intangible drilling expenses would only exacerbate the problem. While I am sure that it is not the intent of policy makers to increase our reliance on foreign oil, I am convinced that these recent activities will lead us toward that end.

According to some of the estimates that I have heard, a repeal of the percentage depletion and expensing of intangible drilling costs would only produce a $6.7 billion savings in FY86. This 1 percent dent is barely recognizable in a $2 trillion budget which continues to escalate. In my opinion, this small savings does not warrant the loss of companies which we know to be vital to our economy and national security.

Most of the proposal circulating in Congress would directly affect the economies of the Southern States. The 4th District of Mississippi which I represent depends heavily on jobs and revenue generated by the oil and gas industry. The tax provisions involving capital gains and depletion allowances would have dramatically unfavorable effect on these industries. My state is certainly not prepared to lose any industries which contribute to its economy, say nothing of a main contributor.

I look forward to hearing the testimony of today's panelists and hope that this hearing will be the beginning of a series of discussions between Congress and industry as we both concertively attempt to tackle tax reform. Thank you.

Mr. SHARP. Mr. Bryant of Texas.

Mr. BRYANT. I want to thank you for your willingness to call this hearing and to allow an open airing of, I think, the serious problems and threat to our energy independence, our ability to produce; that we can either make this economy grow or not with tax reform. Some very unwise tax proposals are seriously being considered by the Congress at the present time.

I would like to reiterate my very strong sense of gratitude to the chairman for his willingness to allow the airing of this entire matter this morning.

Mr. SHARP. Mr. Shelby.

Mr. SHELBY. I hope people can hear me. I do have an opening statement. I would like to thank you for calling this hearing today, as the subcommittee continues to address the issue of the U.S. energy security. Today we will focus on the impact of the tax reform proposal on domestic production of oil, gas, and coal.

As we are all aware, extensive changes in the taxation of corporations and individuals have been proposals and are currently under active consideration by both Houses of Congress. These changes will, no doubt, have a major impact on the tax liability of corporations, their cost of doing business, and the subsequent price to the consumer.

Our tax policy is not inert, but can greatly influence decisions in every sector of our economy and society. Often, the impact is unforeseen and detrimental. When it comes to this Nation's energy supply, I believe we must be particularly attentive.

As a Representative of the energy-rich State of Alabama, I am deeply concerned about the short-term and long-term implications that these tax reform proposals, both the general corporate and energy-specific provisions, will have. A tax increase of considerable magnitude could result in substantial detrimental effects. We must carefully consider the consequences on cash-flow, investment incentives, and rates of return.

A desertion of the energy industry by investors in search for a more attractive return on their investment could result in a reduction in production, an increase in unemployment, a decrease in exports and an increase in the U.S. reliance on imports, thus compromising the Nation's energy security.

Also, given the current trade crisis facing the Nation, particularly the coal industry, consideration must be given to the ability to complete and compete internationally.

I would like to welcome each of our witnesses here today, especially the gentleman from Alabama on the first panel, Mr. Keith Frazer. Mr. Frazer directs the marketing and transportation functions for the Jim Walter Resources, Inc., mining division. Mr. Frazer is an expert on the coal industry and this subcommittee I believe will benefit greatly from his testimony.

Thank you, Mr. Chairman.

Mr. **SHARP**. Thank you, Mr. Shelby. Does the gentleman from Indiana, Mr. Coats, have any statement?

Mr. **COATS**. No statement.

Mr. **SHARP**. The gentleman from Ohio, Mr. Oxley.

Mr. **OXLEY**. No statement.

Mr. **SHARP**. Gentlemen, we are delighted to have you with us. As you know, we would appreciate your trying to keep your remarks verbally to 5 minutes, and we will be happy to make any written materials you have a part of our written record, and then we will open it up to questions. And we have got our first panel of six witnesses, and we will begin with Mr. Singer. If you will identify yourself for the record and proceed, we would be happy to hear from you at this point.

STATEMENTS OF GEORGE SINGER, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA; KEITH FRAZER, VICE PRESIDENT, MARKETING, JIM WALTER RESOURCES, INC.; ROBERT CARGILL, JR., MANAGING PARTNER, CARGILL INTERESTS, LTD.; RUTLEDGE DEAS; LOUISIANA ASSOCIATION OF INDEPENDENT PRODUCERS AND ROYALTY OWNERS, ACCOMPANIED BY HENRY GOODRICH, PRESIDENT, GOODRICH OIL CO.; AND GAYLORD T. HUGHEY, JR., HUGHEY & ALBRIGHT, P.C.

Mr. **SINGER**. Thank you, Mr. Chairman. My name is George Singer. I am a general partner in Singer Bros., involved in oil and gas exploration, production and management of producing and nonproducing mineral and royalty interests.

The Independent Petroleum Association is a small working group made up of producers and tax professionals. It has been analyzing and evaluating the tax reform proposals for almost a year and a half. My family have been involved in various aspects of the oil and gas business for almost 60 years. My grandfather, his brother and members of succeeding generations have been involved at various times in the sale of used and new oil field supplies, operated drilling rigs, managed existing production, initiated the drilling of new wells, participated in the drilling of outside prospects, and actively managed oil, gas, mineral, and royalty interests.

In evaluating the effects of the President's proposals as well as those of the Ways and Means Committee and others, I speak from both a personal perspective and with, I believe, a clear understanding of the way in which the independent sector of the oil and gas industry operates.

Most independent producers agree that tax reform in the abstract is a good idea. They welcome both fairness and simplification. These should not, however, dictate that all businesses be taxed in exactly the same fashion. Tax treatment of various industries should have some logical correlation with the nature of the underlying economic activity involved.

There has been a widespread perception that independent oil and gas producers receive unwarranted tax breaks. These are referred to as special incentives and loopholes. These perceptions are incorrect; they stem largely from political biases or ignorance, and fail to take into account actual conditions within the oil and gas industry. Critics fail to understand that differential tax treatment is not necessarily preferential tax treatment.

The drift of several of the tax proposals is to limit or do away altogether with the current expensing of intangible drilling costs or IDC's. Many people assume that because these are intangible costs, no actual expenditure is involved; this is merely a bookkeeping entry. This is wholly inaccurate. Deductions for IDC's represent dollar for dollar actual expenditures incurred in drilling oil and/or gas wells. Such proposals contemplate that these costs should be capitalized in whole or in part in connection with successful wells.

Proponents of this position do not understand the nature of the expenses and the process of exploration for oil and gas. These expenses are totally unrecoverable; there is absolutely no salvage value associated with any of them. Furthermore, these expenses are necessary threshold costs which are required before an operator can even contemplate successful completion of a commercial well. He cannot even know that there is an asset to be exploited without the expenditure of these funds.

The Treasury I proposal refers to "less expensive means of exploration," in lieu of drilling. Unfortunately, there is no means of exploration other than drilling. IDC's are the economic equivalent of research and exploration or experimental expenses for which full current deductions are allowed in other industries. Restricting the deductibility of these expenses which in no way relate to the production side of the oil and gas enterprise, will unquestionably curtail the number of wells drilled.

Furthermore, not only do I firmly believe that current tax treatment of IDC's is economically justified; I am confident that it generates more tax revenue than would be gained by changing it.

Almost all of the tax proposals contemplate the elimination of statutory depletion. The President's proposal would limit statutory depletion to stripper wells, for reasons of energy policy rather than tax considerations. Once again, the critics ignore certain compelling facts when they advocate repeal of statutory depletion. Oil and gas properties have no residual value; when hydrocarbons are produced, they are gone forever. The producer then has a liability rather than an asset. He must properly plug and abandon his well under applicable State and Federal laws. When reserves are discovered, the producer does have an asset, but as he produces the reserves he is liquidating the asset.

This is similar to a partial capital sale of the asset. A portion of each dollar in revenue which he receives represents a physical depletion of the assets. Statutory depletion simply recognizes this fact. While some view it as simply an accounting convention, it has justification in fact insofar as it relates to the operation of oil and gas properties. The result is a partial capital gain treatment of the transaction. That portion of revenue is excluded from income which corresponds to the capital asset that is being liquidated.

Both current law and the President's proposal permit depreciation deductions in excess of real economic depreciation for many assets. In fact, statutory depletion is actually a more valid matching of tax treatment with the physical and economic depletion of the asset.

Perhaps the most troubling item to me is the alternative minimum tax provision now being considered by the House Ways and Means Committee. While in theory it is intended to assure that all taxpayers will pay their fair share, it will have far-reaching effects for many, many independent oil and gas producers. It will cause all active explorationists to pay alternative minimum tax, even if they would have paid substantial taxes under the normal tax table.

This is principally due to two features; first, the reduction in the maximum tax rate and the increase in the alternative minimum tax rate dramatically increases the number of taxpayers who will pay the latter. Under current law, subject to certain adjustments, the taxpayer will pay alternative minimum tax if his tax preferences exceed 150 percent of his adjusted gross income. Under the Ways and Means version, a taxpayer will pay alternative minimum tax if his preferences exceed only 40 percent of his adjusted gross income.

The second problem stems from the fact that the new proposal would deny oil and gas producers the opportunity to offset oil and gas income against intangible drilling costs when determining tax preferences. It is paradoxical that IDC's, an expense rather than an income item, should be treated as a preference item. It is punitive to disallow the income offset. The oil and gas producer is then including the revenue in his adjusted gross income and separately including an expense associated with continued exploration as a preference.

The effect of this will be that oil and gas producers paying alternative minimum tax will not only pay an actual dollar for each dollar of IDC; they will also pay 25 cents in tax for the privilege of spending that dollar. An oil and gas investment would therefore have to be at least 25 percent more attractive than an alternative investment to justify a producer investing money in it. The result for me will be that my company will cease to be actively involved in oil and gas exploration I am certain that many other independent producers will respond in the same way.

It is obvious that individuals proposing such solutions have ceased to consider simplification an objective of tax reform. This alternative minimum tax proposal with its credit carry-forwards and other features would be an absolute nightmare. Orderly business planning will be impossible. For oil and gas producers the conclusion is inescapable. While certain elections and options appear to be available, no producer will be able to avail himself of them due to the impact of the alternative minimum tax. Furthermore, rather than making investment decisions tax neutral, the new proposals will cause producers to consider tax implications when making virtually every decision.

I, along with most other taxpayers, welcome the prospect of lower marginal rates. Unfortunately, in the context of my business and my industry, the advantages of the lower rates will be more than offset by other provisions. My statements are not premised on some vague notion of national security and national defense. I speak as a businessman who is interested in having a fair opportunity to make a profit in my chosen profession. Thank you.

[Testimony resumes on p. 768.]

[The prepared statement of the Independent Petroleum Association of America follows:]

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

INTRODUCTION

Role of the Independent

The Independent Petroleum Association of America (IPAA), together with thirty-seven unaffiliated state and regional associations, represent the 12,000 individuals and companies who comprise the independent producer sector of the domestic oil and gas industry. Independent producers generally have only one profit center -- the sale of oil and gas at the wellhead -- and do not refine, market or transport oil and natural gas.

Independent producers play a dominant role in the discovery and production of oil and gas reserves in the United States, as evidenced by the following basic facts:

(1) Independent producers drill 85% of all wells in the U.S. -- both exploratory and development. This includes the lower 48 states and Alaska, both onshore and offshore.

(2) Independent producers drill 90% of exploratory wells which account for 80% of significant new discoveries, containing 56% of oil and natural gas reserves.

(3) Independent producers produce 40% of the "lower 48" states' oil production, up from 30.5% in 1979.

(4) Independent producers are responsible for 85% of successful oil well completions and 90% of successful gas well completions, up from 69% and 86%, respectively in 1974.

Misguided Tax Reform?

The IPAA supports the concept of "tax reform." The concept of tax reform, however, must recognize that there is a vast diversity of economic activity in our complex industrial system. "Tax reform" must recognize this diversity of economic activity through the implementation of tax provisions that reflect the underlying nature of how different businesses are operated and financed. Differential tax treatment, which accomodates the economic peculiarities of an industry, should not be viewed as preferential tax treatment, or "loopholes."

Unfortunately, in the political crusade to promote "tax neutrality" and "fairness" through "tax reform," many have lost sight of this important objective by attacking legitimate tax provisions which permit the domestic oil and gas industry to operate on "an even playing field" with other business. Elimination or curtailment of key tax provisions for the domestic oil and gas industry will further cripple an already beleaguered, capital-starved industry that is critical to our national security.

The domestic oil and gas industry, more than any industry in America, has been consistently targeted, for the last 16 years, for negative tax changes that have siphoned off billions of dollars of capital that would have been redeployed into further exploration and development (see Exhibit A). These negative tax changes have gradually pushed the domestic oil and gas industry off the "even playing field," on to the proverbial "bench," and put it at a distinct disadvantage, economically speaking, vis-a-vis other industries. The domestic oil and gas industry does not need any more "tax reform."

Expensing of IDCs and Percentage Depletion - Economic Necessities, not "Loopholes."

Intangible Drilling Costs

Intangible drilling costs (IDCs) are those expenditures made by a taxpayer for wages, fuel, repairs, hauling, supplies, etc., incident to and necessary for the drilling of wells and the preparation of wells for the production of oil and gas, which, in and of themselves, have no salvage value. IDCs are funded with cold, hard cash. IDCs typically cannot be financed by a bank or other financial institution, but must be paid through an operator's internal cash flow or outside equity money supplied by investors. IDCs are, in a sense, analogous to ordinary and necessary operating costs in any other business, since a continuous quest for new reserves through additional drilling must occur to avoid gradual liquidation of the business enterprise. IDCs are the "lifeblood" of the oil and gas industry, where the key to economic survival in a risky, capital intensive business is cash flow. The following items represent typical expenditures that constitute IDC under Sec, 263(c):

- Drill site preparation and related survey costs.
- Fee to drilling contractor for labor, fuel, materials (i.e., drill bits, etc.) and use of drilling rig (under footage, daywork, or turnkey contract).
- Drilling mud and chemical additives.
- Cementing services (cementing of surface, intermediate and production casing).
- Core analysis and logging services (analysis of geological formations with scientific instruments to determine if completion attempt is warranted).
- Perforating services (puncturing of production casing with special "gun" to induce oil or gas to flow into the well bore).
- Fracturing services (pressurized injection of raw material to create fissure in geological formation to induce production).
- Crop damage payments to surface owner.

Some feel that expensing of IDC is a special "preference" to the industry. In their view since IDCs are part of the cost to construct an asset that has an economic life of more than one year (i.e., some oil or gas wells produce for several years), it is inappropriate to permit immediate expensing of IDC, as "costs" are not properly matched with "revenue."

Other industries currently deduct expenses similar to IDCs, i.e., hard dollar expenditures for items which once acquired have zero capital value. What many do not understand is that all tangible items on successful wells -- things retaining capital value like pipe down the hole, pumps and wellhead equipment, separators, compressors, tank batteries, gathering lines, etc. -- are capitalized for tax purposes and amortized over time just as tangibles of other industries are treated.

The following discussion demonstrates that expensing of IDC reflects the economics of the oil and gas industry. In this regard, expensing of IDC puts the oil and gas industry on an "even playing field" with other businesses. Again, it must be recognized that "differential" tax treatment, which reflects the economics of the oil and gas industry, does not constitute "preferential" tax treatment.

Economic Arguments in Favor of Expensing of IDC.

1. IDC Expenditures are Made Before Capital Asset (Oil and Gas Reserves) is Known to Exist.

One of the popular arguments against immediate expensing of IDC is the analogy of the treatment of costs, for example, to construct an apartment building. Labor costs, costs of all materials (whether or not they have independent salvage value), and costs, for example, to use equipment (i.e., cranes and special trucks) in connection with construction of the building must be capitalized and depreciated over a period of years. In their view, the drilling of an oil or gas well is nothing more than the construction of an "underground apartment building."

This analogy is oversimplified and fails to recognize a crucial economic distinction between constructing an apartment building and drilling an oil or gas well. IDC expenditures are incurred prior to a determination that a capital asset (oil and gas reserves) in fact exists! When a building is constructed, there is virtual economic certainty that a capital asset, with economic value, will in fact exist upon completion. That this is a compelling economic distinction.

There is a further misconception that technological advances in geophysical and seismographic instrumentation have greatly reduced drilling risk such that oil and gas reserves can be virtually "pinpointed." While technological advances in geophysical and seismographic instrumentation have significantly aided the continuing search for hydrocarbons, only drilling can determine whether, in fact, commercial oil and gas reserves exist.

2. Return on Investment Subject to Geologic Unknowns.

Another significant economic distinction between drilling an oil and gas well and, for example, the construction of an aprtment building is found in the area of geologic risk. Even after a completion attempt has been successful, there is no way to conclusively determine the extent of the oil or gas reserves because the reserves cannot be physically examined. Petroleum engineering is far away from being an exact science. The oil and gas industry can document thousands of cases where a "significant discovery" at the time of completion eroded, only a few months later, into a well that would never return the operator's investment due to unforeseen geologic features of the formation or mechanical difficulties with the well which may never be correctable.

If IDCs were required to be capitalized, many marginal wells would be abandoned (to write off the remaining IDC and not "carry" the cost) even though the oil or gas recovered would mean that much less oil or gas would have to be imported. In essence, expensing of IDC in the oil and gas industry, in fact, fosters the concept of "economic neutrality" because completion and operating decisions are not influenced by the tax treatment of IDC. Decisions whether or not to complete an oil or gas well, for example, should be determined solely on the prospect of whether costs after the casing point may be recovered through future revenues, since costs to the casing point are "sunk costs."

There is no comparable "geologic risk" in connection with the construction of an apartment building. As a practical matter, structural deficiencies in a building, probably the closest economic resemblance to geologic risk in the oil and gas industry, are few and far between.

3. Resemblance to Research and Experimental Costs (R & E) in the High Tech Industries.

From an economic standpoint, IDCs are perhaps closest to research and experimental costs (R & E). The economic similarity between IDC and R & E is essentially premised on the two special features of IDC noted below:

* R & E expenditures, like IDCs, are incurred before a capital asset (technology) is known to exist.

* Because of unknown risks (geologic in the case of IDC and technological in the case of R & E) there is no practical way to determine or project, even if a capital asset is discovered, an ultimate return on investment with any degree of certainty.

Curiously, there is little, as contrasted to expensing of IDC, public or political flap about expensing R & E costs. IDCs, like R & E expenditures, should continue to be expensed currently. Expensing reflects the underlying economics of the economic endeavor.

4. Recognizes Current Cash Financing Nature of the Industry.

Funds to drill exploratory wells cannot be borrowed. Once a reserve base is developed, an established oil and gas operator may use the reserves to secure borrowing for a part of development drilling from a bank or other lender. Such financing is nearly always on a recourse basis, secured by all the assets of the business. Because of these economic facts, funds to drill exploratory wells must be derived from internal cash flow, equity financing (stock market), or outside investors.

In many other businesses, for example, the utility and real estate industries, financing for new projects may be secured, in large part, by bank or outside financing. In many cases, the financing for such projects can be obtained on a nonrecourse basis, secured only by the assets of the project. Thus, the ability to derive funds for new projects (exploratory drilling in the case of the oil and gas industry) is significantly different than, for example, the real estate and utility industries.

The current cash financing nature of the oil and gas industry is a crucial element in formulating economically mandated tax provisions. Long-term rate of return calculations and/or the ability to recover an expenditure for tax purposes in future years, must not overshadow the fundamental economic fact that most independent producers operate on a current cash flow basis.

Percentage Depletion

Percentage depletion, at the appropriate rate, recovers economic capital in the oil and gas industry. Unfortunately, because percentage depletion became such a "political football," the rate was subsequently reduced from the original 27.5% enacted in 1926, to 22% in 1969, and further reduced to 15% in 1975, for that production remaining eligible for percentage depletion without any real consideration of the economic consequences of such action.

The following discussion demonstrates that the concept of percentage depletion reflects the economics of the oil and gas industry. Percentage depletion, like expensing of IDC, put the oil and gas industry on an "even playing field" with other businesses and is not preferential tax treatment.

1. Oil and Gas Operators Must Discover Their Capital Assets.

Oil and gas explorers must discover their capital assets. In other words, they must invest funds (usually 100% equity) which are totally at "risk" and drill a well to find an asset (oil and gas reserves) that may or may not exist. Even though technological developments, primarily sophisticated geophysical and seismographic equipment, have greatly aided the continuing search for hydrocarbons, drilling, and only drilling, can determine whether commercial reserves exist. After a completion attempt has been successful, there is no way to conclusively determine the extent of the oil or gas reserves; petroleum engineering is far from being an exact science. Accordingly, even after a successful well has been drilled, it cannot be predicted whether or not production weill permit full recovery of investment and operating costs, let alone an acceptable rate of return. Due to inherent drilling risk, it is uncertain whether the operator's reserve base may be maintained through additional drilling activity in the future.

The situation of an oil and gas operator should be contrasted to a taxpayer constructing an apartment building which usually requires an investment of no more than 20% equity. The apartment owner knows an asset will exist after construction; his capital doesn't have to be discovered. Admittedly, the owner is not "guaranteed" that rental income and any residual value will provide an acceptable rate of return. In the overwhelming majority of cases, however, at least some economic return can be realized from the investment, even if the project is a flop.

2. Oil and Gas Properties Have No Residual Value.

Oil and gas is truly a wasting asset. After it is produced, it is gone foreve and cannot be physically replaced. Once the oil and gas has been extracted, the property has no residual value. This economic fact should be contrasted to, for example, an investment in depreciable real estate where typically the investment would, at the very least, maintain its value. Percentage depletion "offsets" the fact that the current depreciation system, and most of the capital recovery systems introduced by tax reform proposals, permit, for at least several years, tax depreciation in excess of economic depreciation. To illustrate the comparative after-tax economic residual value of a comparable investment, consider the following illustration:

> Taxpayer A, for an equity investment of $20,000, acquires an office building costing $100,000 and holds it as rental property for 18 years. The building appreciates at a conservative rate of two percent per year. Taxpayer B acquires mineral rights in an oil field, investing the full $100,000. A successful well is drilled and produces for 18 years,

generating gross income (before operating expenses) of $1,000,000. It is assumed that the taxable income from the well is sufficient for B to utilize the 15% depletion deduction over the entire period. Each owner disposes of their respective property at the end of the 18-year period. Assume further that A and B are in a 50% tax bracket.

	Taxpayer A Real Property	Taxpayer B Mineral Property
Cost	$100,000	$100,000
Depreciation/Depletion	(100,000)	(150,000)
Remaining basis	-0-	-0-
Fair Market Value	$142,825	-0-

Taxpayer A has enjoyed a tax benefit from depreciation in the amount of $50,000 ($100,000 x 50%). In addition, the after-tax residual value of the property is $114,260 ($142,825 - (142,825 x 40% (after 60% exclusion) x 50%)). Therefore, the total "non-operating" after-tax economic benefit of owning the property is $64,260 ($50,000 (tax benefit) + $114,260 (after-tax residual) - $100,000 (cost)).

Taxpayer B has enjoyed a tax benefit from depletion in the amount of $75,000 ($150,000 x 50%). Because, however, the investment was made in a wasting asset, the residual value is $0. Accordingly, B has a "non-operating" after-tax economic cost from owning the property of $25,000 ($100,000 (cost) - $75,000 (tax benefit)).

In order for the two properties' after-tax "non-operating" economic value to be equal, either the real property would have to decline in value to $31,250 or depletion from the mineral property would have to total $328,520. Historic cost accounting concepts, even with the indexing feature of the President's tax proposal, do not reflect economic reality when comparing a wasting asset to a durable asset.

3. Percentage Depletion Approximates the Installment Sale of Oil and Gas Reserves Through Production.

Production of oil and gas may be visualized as the liquidation of an asset over a period of years. Each dollar of production income (in excess of operating expenses) is a complex mixture of capital gain and ordinary income. Economically, capital gain represents that portion of production income that was derived through, and is a direct result of, the entrepreneurial element of drilling, i.e., value of discovered oil and gas reserves in excess of the cost to drill the oil or gas well. There is as much entrepreneurial risk associated with drilling and developing an oil and gas property as there is with investing through the stock market in a start-up company. If either investment is liquidated, a capital gains rate should be applied to the gain, provided the requisite holding period has been met. Ordinary income is that portion of production income which represents the income stream that a purchaser of the reserves would require for an acceptable, risk-adjusted rate of return on investment and as compensation for managing operations. These are complex concepts; nevertheless, they reflect a reasonable visualization of the underlying economics of discovery of oil and gas reserves and subsequent production. Under this theory, the percentage depletion rate (using a 17.5% capital gain rate and a 35% ordinary income rate as in the President's proposal) should, in a greatly simplified analysis, be roughly 15% - 23% in today's economic environment.

The computatoins on the following page illustrate the required rate of percentage depletion to equate: (a) the income tax (with percentage depletion applicable) on the selling price of a barrel of oil produced and sold at the wellhead to; (b) the combined capital gain tax and ordinary income tax if the value of the "entrepreneurial risk" increment of the selling price equals the value of the reserves if they were sold "in the ground:"

ILLUSTRATION

Assumptions:

* (a)	Selling price of oil at the wellhead	$26 per bbl.
(b)	Value of oil reserves sold in the ground	$ 8 or $12 per bbl.*
(c)	Income tax rate	35%
(d)	Capital gain tax rate	17.5%

* Market prices for oil reserves sold in the ground have ranged from $8-12 per barrel in typical transactions in recent years.

	$8 Value		$12 Value
Selling price	$26.00 ======		$26.00 ======
Capital gain increment	8.00		12.00
Ordinary income increment	18.00		14.00
	26.00		26.00
Tax on capital gain (.175 x 8)	1.40	(.175 x 12)	2.10
Tax on ordinary income (.35 x 18)	6.30	(.35 x 14)	4.90
Total tax	7.70		7.00

Computation of depletion rate:

$8 Value	$12 Value
.35(26 - x) = 7.70	.35(26 - x) = 7.0
9.1 - 35x = 7.70	9.1 - .35x = 7.0
.35x = 1.4	.35x = 2.1
x = 4	x = 6
$\frac{4}{26}$ = 15%	$\frac{6}{26}$ = 23%

Proof

	$8 Value		$12 Value
Selling Price	$26.00		$26.00
Percentage depletion (15% x 26)	3.90	(23% x 26)	5.98
	22.10		20.02
Income tax rate	x .35		x .35
Tax (rounded)	7.70		7.00

4. Percentage Depletion Recognizes that Replacement Cost Get More Expensive Over Time.

Depreciation is essentially a mechanism that permits a business enterprise to recover its capital assets over their economic lives. It is justified on the standpoint that only income, and not capital, is subject to taxation. Generally, absent adjustments for inflation, replacement cost of a business enterprises' capital assets roughly corresponds to historical cost. Actually, in many cases, economies of scale (decreasing replacement costs through greater volume) are likely to lower replacement costs for many firms that are expanding.

The concept of depletion of exhaustible resources, such as oil or gas, is an entirely different economic matter. Replacement costs (finding costs of replacing reserves) increase in the oil and gas industry simply because of the fact new reserves are increasingly difficult to find. If depletion deductions were limited to cost, oil and gas operators would, in essence, be forced to disinvest over time. The concept of depletion must encompass both the recovery of cost and additional capital to find new reserves. Again, percentage depletion, admittedly imperfect, at least attempts to put oil and gas operators on an even playing field with other business activity.

5. Percentage Depletion Recognizes that Economic Profit from Successful Wells Must Compensate for Economic Losses from Dry Holes and Marginal Wells that do not Recover Investment.

When an oil and gas operator drills a dry hole, he has incurred a total economic loss of his investment. Many marginal wells do not recover the entire investment, with partial recovery of investment substantially delayed because of the fact that production from such wells is unpredictable and often very slow and expensive. These are real economic costs and risks.

Percentage depletion recognizes these cold, hard economic facts, permitting a portion of the revenue stream from successful wells to be recovered tax-free in order to compensate for such economic losses and to find replacement of future exploration and development efforts.

Role of the Minimum Tax in Tax Reform.

The concept of a "minimum tax" for both individuals and corporations is, on its face, politically appealing to many members of Congress and large portions of the general public because it allegedly addresses the "fairness" issue of tax reform -- i.e., that everyone should pay some tax. Underscoring the initial, cosmetic appeal of a minimum tax, however, are significant, unfortunate side effects: enormous complexity and distortions of economic decision making.

The minimum tax provision in the House Ways and Means Staff tax reform proposal used as a vehicle to markup the tax reform bill of the House Ways and Means Committee would be devastating to the independent oil and gas producer. In fact, the proposal is most punitive to active oil and gas explorationists who reinvest substantial net oil and gas revenues into further exploration and development. The proposal would eliminate the "net income offset" of the current law minimum tax, substantially broaden the tax base through addition of a new host of "tax preferences," and raise the tax rate 25% (from 20% to 25%), almost equal to the regular tax rates proposed for individuals (35%) and corporations (33%).

As a practical matter, most active independent producers would be subject to the minimum tax if the Ways and Means Staff oroposal were enacted as proposed, with the result that IDCs would economically be written off over a period of up to 10 years because of the complex features of this minimum tax. The minimum tax provisions will economically force many oil and gas producers to abandon completion attempts on marginal wells that would be completed under current law. The minimum tax proposal would cause a further capital hemorrhage from an industry already reeling in price and market uncertainty and a quagmire of governmental red tape and regulation.

REDUCED ENERGY DEVELOPMENT WOULD RESULT FROM PENDING REFORM PROPOSALS

The domestic petroleum industry is already in a severe economic depression. Outside investment through publicly registered funds is virtually non-existent. Privately placed outside investment (not subject to SEC registration or reporting) which accounts for up to 25% of exploration and drilling expenditures by independents, is sharply curtailed. More than 60% of available drilling rigs are stacked. At the end of October, the number of rigs operating was the lowest number for the corresponding week at any time since 1976. Including the "disaster" year of 1982, this will be only the second time in 23 years that the active rig count has been lower in the last six months than in the first six months of the year. Even in 1982, the low for the year was 2,400 rigs, more than 500 greater than the 1,865 presently operating.

To assess the potential impact of the Ways & Means staff proposal, a computer analysis was made of the cash flow available for reinvestment by a typical small producer. To assure a lack of bias, it was assumed that after payment of personal expenses, operating costs and taxes, all available cash flow was reinvested. No consideration was given to alternative investments which, under the staff proposal, will have higher potential returns with lower risk. In the period 1986 - 1995, actual tax liability would be increased by 149% and exploration and drilling expenditures decreased by 54%.

Two recent surveys of independent producers, one by Ernst & Whinney, the other by Pitts Energy Group of Dallas, TX, have indicated declines in exploratory drilling exceeding 75% and for development drilling exceeding 50%. All of these projected declines, whether by survey or arithmetical modeling are from a level of activity which is already at least 50% below that required to maintain production at its present level, much less to meet any future increase in consumption due to growth of the economy.

In 1984, imported energy cost U.S. consumers approximately $64 billion, about one-half of the total trade deficit. Adoption of the Ways and Means Staff proposal would result in increasing petroleum imports to 50% of U.S. consumption or more with three to five years. The damage to national economic and military security would produce greater strain on the value of the dollar, increase unemployment and decrease tax revenues to the Treasury.

Recently, at the request of Congressman Dingle, the Energy Information Administration produced a report perporting to assess the impact on domestic energy development of the so-called Treasury II tax proposal. A critique of that anlysis, prepared by IPAA, demonstrates that the conclusions are significantly understated, especially as to long-term negative impacts on oil and gas production. A copy of the IPAA critique is attached as Exhibit "B."

The EIA concluded that while there would be a significant negative impact on exploration and drilling activity by independent oil and gas producers, particularly the smaller ones, that over the long term this would not reduce, to a significant degree, domestic oil and gas production. This conclusion is contrary to several facts including:

(1) The larger companies focus their efforts on exploration and drilling prospects that are quite different than independents. Because of their larger overhead and higher costs and greater capital requirements, larger companies drill only those prospects expected to have very substantial reserves and higher daily production. The vast majority of prospects drilled by smaller independents will not ever be drilled by larger companies. If not drilled by small independents, the nation loses a corresponding amount of future reserves and daily production.

(2) There's a symbiotic relationship between the large and small companies. The larger companies advance lease large blocks of acreage which the independents cannot do because of a lack of capital resources. The independents locate what they consider to be promising prospects to drill on acreage leased by the majors and then enter into a "farm-out" agreement whereby they sublease small portions of the acreage from the majors and, under any number of different types of sharing arrangements, the independent will then drill an exploratory well which, if successful, will lead to

additional development drilling jointly financed by the independent and larger company. In this way, many prospects which the majors would not drill are explored and even many which might ultimately be explored by the majors are explored more quickly thus benefitting the nation with additional reserves and daily production in two ways.

(3) It has been demonstrated over many years that the number of wells drilled per active operator remains relatively constant. The total number of wells drilled annually closely parallels the total number of active operators engaged in exploration/drilling activity. Thus, the total number of wells drilled varies up or down depending on the number of independents as the number of major companies remains essentially fixed over time.

Accordingly, any change in tax treatment of independent producers which reduces their number or their ability to explore and drill will be directly reflected in new additions of oil and gas reserves and the amount of daily production from domestic resources.

CONCLUSION

The concept of tax reform, while a laudable political and socioeconomic goal, must carefully consider the economic realities of the diversity of business enterprises that operate in our complex industrial infrastructure. Crucial tax provisions that recognize fundamental economic differences between industries and create a "level playing field" should not carelessly be labeled "loopholes" and eliminated for the cause of a misguided "tax reform" bill. Further, the national security considerations implicit in the energy industry must not be forgotten. The concept of a "minimum tax" should not create such an "abberation" in the tax system that legitimate tax provisions are stripped of their economic usefulness.

EXHIBIT A

Major Tax Changes Directed at
Domestic Oil and Gas Producers

For the past 15 years, domestic oil and gas producers have been repeatedly singled out for harsh negative tax changes. The changes include:

* October 1969 - Applicable rate of percentage depletion cut from 27.5% to 22%;

* October 1969 - Percentage depletion made subject to a "minimum tax" provision;

* March 1975 - Percentage depletion, for petroleum only, repealed for integrated companies. Percentage depletion left intact for producers of more than 100 other minerals;

* March 1975 - Independent producers and royalty owners -- of oil and gas only -- limited as to volume of production eligible for percentage depletion. Volume limit to be cut in half over five year phase-down;

* October 1976 - Intangible drilling costs retroactively made subject to "minimum tax" provisions for individuals;

* October 1976 - Percentage depletion for independent producers and royalty owners further restricted by application of so-called 65% of taxable income limitation;

* October 1976 - Oil and gas exploration and drilling expenditures subjected to "at risk" limitations;

* March 1980 - Crude Oil Windfall Profit Tax Act adopted, imposing an excise tax on domestically produced crude oil -- but not imported oil;

* January 1981 - Applicable rate of percentage depletion begins phase-down from 22% to 15% in 1984. Rate reduction applies only to oil and gas;

* September 1982 - "Minimum tax" on intangible drilling costs and percentage depletion increased for individuals;

* September 1982 - Integrated producers denied current expensing for 15% of intangible drilling costs;

* July 1984 - Denial of current expensing for intangible drilling costs increased to 20% for integrated producers;

* July 1984 - Use of prepaid intangible drilling costs restricted for all taxpayers.

This multiplicity of actions have created continuing uncertainty, while increasing the industry's federal tax burden by hundreds of millions of dollars annually, decreasing the amount of exploration and drilling that would otherwise occur.

EXHIBIT B

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

1101 SIXTEENTH ST., N.W.
WASHINGTON, D.C. 20036
[illegible]

OFFICE OF THE PRESIDENT
CAPITAL BANK PLAZA
[illegible] CLAY STREET, SUITE [illegible]
HOUSTON, TEXAS [illegible]
(713) [illegible]

JON REX JONES
PRESIDENT (CEO)

October 18, 1985

Dr. H.A. Merklein, Administrator
Energy Information Administration
Department of Energy
Washington, D.C. 20585

Re: Analysis of the Impacts of the President's Tax Proposal on Major Sectors of the Energy Industry.

Dear Dr. Merklein:

Pursuant to your letter dated September 24, 1985, the Independent Petroleum Association of America (IPAA) offers the following general comments relating to the findings of the above captioned study concerning oil and gas producers:

(1) Since the introduction of the President's tax proposals in May, it has been our contention that most independent producers would be adversely impacted should the plan be implemented. The study supports this contention. Over the next three years, tax increases for medium size independents from 1% to 40% over current law are indicated. For the smaller size independents, the increases are even greater, from 35% to 52% over current law. As indicated in the study, these tax increases will reduce cash flow. Reductions in internal cash flow will result in reduced levels of expenditures for exploration. While favorable long-term rate of return calculations may be financially meaningful, they should not overshadow the fact that most small independents operate on a current cash flow basis.

(2) Investors outside of the industry, as indicated in the report, have been an important source of capital expended in the search for petroleum reserves. The IPAA estimates that roughly half, or $10 billion of the $20 billion expended by the independent sector in 1984 for U.S. exploration and development, was supplied by "outside investors". Only $2.4 billion is directly traceable to registered public oil and gas offerings and regulation D filings. The other $7.6 billion was raised in private offerings not directly reflected by public records. The level of outside investment is a crucial element in funding U.S. exploration and development. On pages 2.1 and 2.2, the study alludes to a tremendous decrease in outside capital

available to the industry and concludes that this trend will be exacerbated by the President's proposal. How will the industry replace reserves not discovered due to the unavailability of this capital?

(3) On page 2.2 of the study, it is stated that:

> "Because of the risky nature of oil and gas exploration, producers currently are given tax advantages not conferred on other industries. For example, major expenditures may be expensed for tax purposes even when, for financial reporting purposes, they are reported to stockholders as capital items."

We believe that this statement does not correctly reflect the economics of oil and gas exploration and drilling. Differential tax treatment is not preferential tax treatment. A decision to incur IDC is simply not comparable to a decision to invest in a durable asset. From an economic standpoint, the expensing of IDC is necessary to put the industry on an equal basis with other industries. In this business, substantial sums of money must be committed just to establish the existence of an asset. There is no salvage value associated with these costs, which may be irretrievably lost. Percentage depletion is equally important to the industry. It recognizes that a particular mineral (hydrocarbon) reserve is a wasting asset which cannot be replaced and permits a recovery of the economic capital developed by the producer. This is important because significant new reserves, which are typically located in deeper zones in more remote locations, can be discovered only with the expenditure of even greater amounts of capital. Another compelling argument for the retention of percentage depletion on non-stripper production, as distinct from the argument for the preservation of percentage depletion on stripper well properties for energy policy considerations, is attributable to the economic value differential derived through the drilling effort. Such a value differential occurs when discovered oil and gas reserves greatly exceed the drilling cost. Such value fluctuations are unique to the oil and gas industry. Rather than produce the oil and gas reserves out over their economic lives, the producer has the ability under current law to sell the reserves in place for capital gain, after recapturing certain IDC as ordinary income. Percentage depletion recognizes this fact, thereby permitting the producer to operate the reserves over their economic life and receive roughly the same overall return as if he would have sold out for capital gain. Percentage depletion also serves to offset the bias in the existing (and in the President's proposed) tax system caused by permitting tax depreciation in excess of real economic depreciation. By repealing percentage depletion for oil and gas wells other than stripper wells, the President's proposal will put the industry at a competitive disadvantage with other industries in its competition for capital.

Regarding the reference to the accounting treatment of IDC for financial reporting purposes, we believe that the purpose of financial reporting is entirely different from the determination of taxable income for federal income tax purposes. The former is primarily concerned with the appropriate measurement of "pure" accounting income or loss (conceptual matching of income and expense) whereas the measurement of taxable income is oriented toward an "economic measurement" of income based on the underlying economic nature of the particular business enterprise.

(4) On page vi, in the summary of the portion of the study relating to individual projects, it is stated;

> "The study concludes that the proposal is not likely to adversely affect exploration and development activities, except for those projects whose economics are heavily dependent on percentage depletion. Given the relatively small share of adversely affected independents in production, and given the improvement in rates of return for other producers, no net effect on oil and gas production is likely."

Such a disparaging comment about "small" independents is not supported by the evidence. As indicated in Table 2.5 of the study, the EIA estimates that "small" independents produced 248 million barrels of non-stripper well oil in 1982. This is clearly a significant quantity of oil. On page 2.14, footnote 6, it is indicated that reserve additions would give a better indication of the contribution of "small" independents, but then it is rationalized that non-stripper production is a reasonable basis for concluding that "small" independents are an insignificant factor in the industry. We also believe that reserve additions would be a better indication of the contributions of "small" independents. Quantifying this number would no doubt indicate that "small" independents are quite significant to the industry and the national energy effort.

There are other problems with the conclusion. First, there is no explanation of why production from projects whose economics are heavily dependent on percentage depletion is unimportant. The country needs every barrel of oil it can possibly produce, as soon as it can be produced. Second, on a macro-economic basis, how can it be guaranteed that the country will not suffer a production decline in the near term? How quickly will the few companies experiencing improved internal rates of return be able to pick up the slack in exploration left by the small independents? In the effective tax rate portion of the study, it is noted that in the first three years all petroleum companies will experience cash flow reductions. Will the larger companies in fact, drill the same prospects the small independents would? Many "small producer" prospects will never be drilled by larger companies. We submit that it will take a substantial period of time before even part of this slack is picked up while, in the interim, our dependence on imported oil from unreliable sources will skyrocket. Third, the results of this portion of the study might be more meaningful had they been presented in a tabular form incorporating sensitivity into the pricing, inflation, and discount rate assumptions. A sensitivity analysis on key assumptions would be helpful in drawing a conclusion. Fourth, the calculations show that the President's proposal will equalize rates of return among company classifications. There is no explaination why this is a laudable goal. Given the asset base of the small independents as compared to the larger companies, isn't a slightly higher rate of return reasonable? We believe that the small independents will drill for and produce reserves that larger companies are either not interested in or would not drill for some time due to project prioritization and/or budget constraints.

(5) On page 2.12 of the study, there is a comment that few, if any, wells are likely to be shut-in due to the proposal. The use of an average well cost in the accompanying analysis is misleading. Each property must be analyzed on its own merits. For example, many secondary waterflood projects are operated under a unitization agreement covering dozens or possibly hundreds of individual wells. All the wells covered by the unitization are considered one property for purposes of calculating percentage depletion. A large portion of the wells may individually produce 10 barrels per day or less, but the "property" may, in the aggregate, produce over 10 barrels per well per day because of the relatively higher production from a few of the wells. In such cases percentage depletion may provide a significant economic inducement to continue operation of the unit. It is also important to appreciate the fact that the upfront, after-tax cost of initiating a workover project, which may ultimately have little or no effect on production, increases 30% because of the impact of the proposed rate change.

(6) A key factor that no economist can quantify relates to the mind-set or psychology of producers in the business. While the current year first half statistics may look encouraging, there is strong evidence that there is a fundamental concern among producers about the future of the industry which is directly related to the inability of the government to guarantee fair, long-term energy taxation policies. Drilling statistics, because they are not current but lagged 6-9 months, can be misleading. Also, raw statistics do not indicate that only Triple A prospects are being drilled. They do not indicate that the reported level of activity is related to budgeting decisions made in prior years. They do not indicate that 1985 dollars are thought to be worth less --- and therefore more likely to be exposed to risks --- than future dollars. At this point the future does not look very bright for petroleum exploration. On top of the existing weakness in oil and gas prices, another attack on the industry in the name of tax reform will result in reduced domestic exploration.

In addition to our general comments, we have the following specific comments and questions relative to the study:

New Investment Projects -

(1) Were the initial year revenue and expenditure assumptions based on actual drilling and production experience? If the revenue and expenditure levels have been overstated, (or the timing of expenditures or cash flows altered) the early cash flows, including tax savings, could cause an overstatement of the internal rate of return (IRR).

(2) Given the current softness in the market for crude oil, how would a $1 or $2 drop in the price of crude impact the IRR. From the standpoint of an oil and gas investment (relative to less risky investments), the

rates presented are not that attractive. Given the softness in crude prices, any change in tax policy which would discourage exploration is totally unwarranted.

(3) While the President's proposal clearly indicates that percentage depletion is retained for stripper wells, the 1000 barrel per day limitation is not addressed. Given the attitude of Congress and the IRS towards the oil and gas industry, it is unlikely that this limitation would be removed. The study apparantly gave large independents full credit for project stripper well production (see p. 2.8). If the large independent had 1000 barrels per day of existing stripper well production, additional stripper well production will yield no additional percentage depletion and the study has overstated the IRR of the large independent.

(4) Should some sensitivity be built into the inflation rate utilized? High (higher then recent or recent past) inflation rates coupled with indexed CCRS and cost depletion can yield very favorable results from a present value standpoint.

(5) The study calculates an "equivalence price" in connection with its IRR computations. Equivalence price is defined "as the wellhead price that would cause a producer to be indifferent to undertaking the project". In our opinion, the use of an 8% real discount rate in making this calculation may be too low in light of the risk inherent in the oil and gas industry, especially considering that the after-tax yield from a "safe" bond investment may approach 8%.

(6) In calculating the profitability of the two oil and gas exploration projects, IRR calculations were made. We believe that most of the companies that perform project profitability calculations utilize a risk adjusted reinvestment rate of return (RRR) concept to direct capital between competing investment opportunities. The RRR is also referred to as the terminal value rate of return (TVRR) or the adjusted rate of return (ARR). Essentially, the RRR is the after-tax interest rate applied to the after-tax cost of the project that yields the equivalent of reinvesting and accumulating the yearly operating cash flows at a "safe" or "minimum" interest rate through, or adjusted to, the various project's termination dates. The use of RRR may, in some cases, lead to different project prioritization than the use of IRR.

Corporate Tax Impacts -

(1) Was 1983 a reasonable year to use as a base year, and is it reasonable to assume that expenditures would be constant for 12 years, in light of the tax increases projected by the study and the existing price uncertainty?

(2) We have had some difficulty interpreting the explanations for percentage depletion and loss carryforwards given in Appendix 2.1. Accordingly, we have been unable to understand what impact these items may have had on the results.

To conclude, the IPAA believes that the President's proposal will result in significantly decreased levels of exploration activity. This, in turn, will result in increased imports of oil with all of the associated negative implications from the standpoint of our balance of payments and our national security. The conclusion that implementation of the President's proposal would have no net effect on oil and gas production is totally contrary to all credible evidence. The data supports our conclusion that "small" independent producers as well as larger independents, significant players in the domestic petroleum industry, would be severely impacted.

Sincerely,

Jon Rex Jones

Jon Rex Jones

Mr. Sharp. Thank you very much, Mr. Singer. Mr. Frazer.

STATEMENT OF KEITH FRAZER

Mr. Frazer. Thank you for having me here, first of all. Thank you for having these hearings in the beginning, because I think they are very important to discuss and to make comments for some of us on the impact that the proposed tax reform would have to our different industries.

Mr. Carr, our president, was scheduled to be here today, and at the last moment was unavoidably detained, so he asked me to send his regrets. He sends his regrets and he also sends me.

As Congressman Shelby has said, I am the vice president of marketing and transportation for our group. I am not a financial man, I am not a tax man; I am the marketing man. I spend most of my time traveling around the world because our company exports approximately 70 percent of the coal that we produce. And we are in the process now of producing 9 million tons per year. In early 1987 we will be producing 10 million tons per year.

That company, of course, is Jim Walter Resources. We are located in central Alabama, we are part of Jim Walter Corp. headquartered in Tampa, FL. We are a very diversified corporation. We have something like $2.3 billion in sales each year. We are among the top 200 corporations in the country.

So I come to you then on behalf of Jim Walter Resources, mining division, to give you a brief introduction to our company, to tell you about the problems that we have currently and about the problems that we certainly will have if the tax reform should go through in its present form.

Our company has made a $700 million investment in central Alabama. We have decided some 10 years ago that the market was ripe to exploit the deeper seam of coal in North America. The Blue Creek seam. We have the deepest coal mines, the deepest shafts in North America. Our deepest shaft at our No. 5 mine is 2,400 feet deep.

This $700 million has been invested in a series of mines, very sophisticated mines with state-of-the-art equipment. We employ 3,500 people-plus at this point in time. By the end of the year we are looking to employ about 4,000 people. We not only have the deepest mines in North America, we also have some of the gasiest mines; the mines that contain the highest content of methane in our reserves.

So as we look to the 10 million tons per year production, and as we look to the fact that we have something like 400 million tons of recoverable reserves for a 40-year life, we must look to the situation that we have at hand, and we must look to the factors, to the obstacles, to the problems that we see on the horizon.

In that context, then, I thank you very much for the opportunity to come and to tell you about our problems and to make our comments concerning the tax reform.

Today, the U.S. coal producer faces an international market that is extremely competitive. I do not have time to list the countries and to list the reasons, but at a time when the demand for our type of coal, for all coal as a matter of fact, is very low and the prices are consequently low, the American coal producer must absorb substantial costs not faced by foreign competition.

Some of those costs are the high inland transportation rates that we have. Others are the stringent environmental laws and the costs associated with that. The strong health and safety laws and the costs associated with that. The lack of deepwater ports where we can load only to approximately a 40-foot draft in a 60,000-ton vessel as compared with our competitors who can load 150,000-ton vessels. We are hampered and bothered and burdened by the strong dollar as we continue to try to export 70 percent of that 10 million tons per year.

So I say to you that given all of these problems and along with the geological problems that we have, the methane problems that we have and the other problems that all mining companies have, we are going to persevere. We are going to work hard, we're going to use our technological skills. We're looking to the time when we can realize some sensible rate of return on the $700 million that we have invested.

And I come to you today, gentlemen, not to ask for a handout, but for a hand. I want you to understand the situation that we have and I want you to realize the ramifications, the consequences, that increased taxes are, in effect, taking away the tax incentives, the benefits that we already have, can mean to mining companies through the country and specifically, to Jim Walter Corp.

I would say to you that we, as we made our decision several years ago to invest this $700 million that we have invested, had as a part of our economic equation the tax benefits and the incentives that exist presently for development of our coal reserves. To take away one of the ingredients of the tax equation at this point in time, after we have invested the money, seems to us to be certainly unwise and certainly unfair.

We would give you, in closing, an example. We would say, based on our studies and based on the fact that we are operating at a very slim margin of profit because of depressed prices and what have you—in fact, we are operating at something less than a 2-percent rate of return on our investment at the present time—but if these proposal were to go through in their present state, and if we would assume that the complete elimination of the percentage depletion were here, in 1985 on our profit sheet, for example, instead of making some small after-tax profit, we would have lost $8 million. In 1986, we project that instead of some small profit, some small rate of return on our investment, we would have lost almost $10 million.

So I hope, gentlemen, in this short time, that you could see the earnestness and the sincerity, the serious concern we have for these tax reforms that you are having hearings on now. And as a representative of the coal industry, one who is leaving next week for Europe to call on people, whom 30 other producers have already called on to try to sell our coal, to keep our mines operating, to try to look forward to the time when we can make some small profit, we would simply encourage you to look very carefully and to take into consideration the plight of the coal industry as you consider the reforms that you have before you now.

I would say, in addition, that although I have not had time to discuss the full impact of the reforms with you, that two of our mining associations have commissioned indepth reports of the impact, and I understand that one of the National Coal Association people will be speaking later, so I am sure he will be entering his report. But I have here a report, Mr. Chairman, that I would like to enter into the record from the American Mining Congress.

Mr. **Sharp**. Without objection, we will make that part of the record.

Mr. **Frazer**. And I would like to include the written statement of Mr. Carr. I have made my statements verbally. I have no written comments, but I would appreciate it if Mr. Carr's written statements could be included in the record.

Mr. **Sharp**. We will make that part of the record.

[Testimony resumes on p. 797.]

[The prepared statement and attachment of William Carr follows:]

BEST COPY A

STATEMENT
OF
MR. WILLIAM CARR
PRESIDENT
JIM WALTER RESOURCES, INC.
MINING DIVISION

Mr. Chairman, Members of the Committee:

Thank you for the opportunity of commenting today on the proposed tax reform and its impact on coal mining.

I am Bill Carr, President of the Mining Division of Jim Walter Resources, Inc. We are a subsidiary of the Tampa-based Jim Walter Corporation, one of the largest 200 industrial companies in the U.S.

Jim Walter Corporation has major interest in homebuilding, natural resource development, and the manufacture of building materials. In our fiscal year which ended August 31, 1985, overall Jim Walter Corporation sales and revenues were $2.3 billion.

JIM WALTER RESOURCES, INC. - MINING DIVISION

Our Mining Division, which I have led since 1976, is headquartered in Brookwood, Alabama in the 7th Congressional District represented by The Honorable Richard Shelby. Currently, we have five operating coal mines; three in the 7th District and two in Jefferson County-Birmingham area represented by The Honorable Ben Erdreich.

Over the past ten years, Jim Walter Resources has pioneered one of the nation's most ambitious mining development projects. This includes a massive capital investment program of some $700 million.

Our expansion has required the hiring and training of some 3,000 coal miners who live throughout Central Alabama. Presently, we are the largest underground producer of coal in Alabama and one of the largest in the Southeast.

This ambitious program has been accomplished under some of the world's most difficult geological conditions. In fact, it is only during the past few years that technology has become available to provide for the successful mining of coal under such adverse and costly conditions.

Two of the most serious problems are the depth of the coal seams and high concentrations of methane gas. Currently, we operate several mines at depths of over 2,000 feet. Our No. 5 Mine, outside of Brookwood, is the deepest vertical shaft coal mine in the United States. These deep shaft coal reserves have possibly the highest concentrations of methane gas of any coal operations in the nation.

Despite these difficulties, our goal has been to raise production from less than one-half million tons in the mid-70's to over ten million tons annually at peak production. In FY 1985, our production approached eight million tons and is projected to be over nine million tons in 1986. This highlights one of our most difficult problems; that of attempting to provide several extra million tons to the international market under the most difficult market conditions we have ever seen.

To achieve these production goals, we have implemented the most productive and safest mining techniques. Depending on the geological conditions, the Division uses one or a combination of three mining techniques - conventional room and pillar, continuous miner, or longwall.

Jim Walter Resources was the first coal company in the Southeastern United States to use a modern longwall operation. Throughout the coal industry, longwall mining is generally considered the safest, most productive, and under proper geological conditions, the most cost-effective method of mining.

At present, Resources operates nine longwall units which represent in excess of $100 million of its total of almost $700 million in capital investment. Ultimately, we anticipate the addition of as many as three more longwall units, bringing our total number to twelve.

In addition, Jim Walter Resources has employed the latest in coal seam degasification principles to remove dangerous methane gas in advance of underground mining. These techniques have allowed improved coal productivity from the mines, coupled with substantial improvements in mine ventilation safety.

Such fast-paced growth and the introduction of these new mining techniques have created the need for massive new training programs. This has prompted the development of one of the most complete training programs ever organized for the coal mining industry.

In June of 1979, we opened our Training and Employment Center. This facility includes a network of classrooms, auditoriums and hands-on learning areas, furnished with the most modern training equipment and learning aids.

The decisions to invest close to $700 million and develop these operations were not made lightly, when you consider that they came only after careful study and evaluation and were based on the following facts and assumptions:

1) Reliance on the fact that we have one of the world's finest coals, eminently suited for steel making, coke production, or steam generation, with reserves of 30-to-40 years at top production.
2) Confidence in the ability of the Alabama coal miner to implement mining techniques on the cutting edge of world coal technology and maintain high levels of productivity.
3) Optimism regarding the increased use of coal as an energy resource of choice with supplies of oil and natural gas diminishing and the uncertain development of nuclear power.
4) Reliance on a federal system of taxation which is fair and provides essential incentives to develop, at great cost, these heretofore economically unrecoverably coal reserves.

INTERNATIONAL COAL MARKET

Today, we find ourselves competing in a very tight and difficult world coal market. Like other world producers, we face increased competition overseas in a shrinking market.

Unlike the older, more established U.S. companies, however, who have long-term domestic contracts, Jim Walter Resources must look to the international market to sell the majority of its product. Right now, close to 70% of our coal must be sold overseas.

This comes at a time when more and more metallurgical and steam coal producers are entering the world coal market at a time when demand is already very low. Canada, South Africa, and Poland are providing tough competition. In addition, China and Colombia have large reserves which are now coming on line.

Australia and other Pacific-rim countries have a double advantage of cheaper freight due to their proximity to Japan, one of our major markets, and significantly lower labor costs.

The strength of the U.S. dollar is another factor negatively affecting our export sales. With the high level of the dollar's value, many countries are hard-pressed to pay U.S. dollars for coal with their devalued currencies. This is particularly true for developing nations, such as the South American countries, with whom we would like to increase our sales.

We are also faced with competition from world-class "super ports" that can accommodate 100,000-plus-ton oceangoing vessels. We have such a condition in Alabama at the Port of Mobile, which, despite its excellent coal-handling facility, can only accommodate vessels of up to 60,000 tons. Too often, large vessels leave Mobile only half- or three-quarters full for a trip to South Africa or Australia where they are "topped off" with foreign coal before heading for their final destination.

These conditions mean simply that our competitors can offer prices on the worldwide market which are so attractive to the customer that they often border on the ridiculous. In this keenly competitive environment, sales contracts are often decided on a pennies-per-ton basis.

Given all of these facts, it is absolutely crucial that Congress not impose additional cost increases or take away the very important tax incentives which were an integral part of the decision to invest almost $700 million in this coal development project in the first place. It is against this backdrop that we must examine the tax reform proposals and attempt to assess their impact on the coal industry in general and our company in specific.

IMPACT OF TAX REFORM ON THE COAL INDUSTRY

The tax reform proposals now being considered by the Ways and Means Committee, including the plan submitted by the President and the staff proposal commonly referred to as the Rostenkowski Plan, contain several provisions which would have a substantial negative impact on the coal industry, including:

1) Repeal of the percentage depletion allowance.
2) Repeal of the Investment Tax Credit.
3) Removal of capital gains treatment for coal royalty income.

Before commenting in detail on these aspects of the tax proposals, it is well to reflect on the unique nature of mining as an industry and the reasons why certain provisions of assistance to mining were enacted into the tax code by the Congress in the first place.

In its report to the American Mining Congress on the Impact of the President's Tax Reform Proposals on the United States Mining Industry, the Arthur D. Little Company noted that,

> "Mining has a number of unique characteristics and has, under current law, certain tax treatments reflecting these characteristics. The specific aspects of mining which set it apart from other types of business enterprises are:

1. Reserves of material in the ground, as identified through long-term and high-risk exploration, are the primary assets of the enterprise.
2. Every property, on the other hand, has a finite life; when the economic reserves are gone, the particular mine can no longer function.
3. Very long-term capital commitments must be made, not only in exploration and assembly of ownership of property or mineral rights, but also in fixed capital investment required to begin operations at a specific location."

Further, the Arthur Little Study notes accurately that,

"In order to encourage the continued existence of a domestic capability to produce many necessary raw materials, tax law has been developed which addresses the unique structure of a mining enterprise and the differences of mining from other businesses. These mining tax provisions include, in particular, percentage depletion, expensing of hard mineral exploration and development costs, and capital gain treatment of royalty income from coal and iron ore."

The National Coal Association, on whose Board of Directors I serve, has contracted with the accounting firm of Price Waterhouse for a study, The Economic Impact of the President's Tax Proposals on the Coal Industry.

The basic conclusion of the Price Waterhouse Study is that Treasury II will impose a tax increase of considerable magnitude at an extemely inopportune time.

The effects of such a tax increase will be adverse and substantial, including an overall reduction in coal production of some 79 million tons with an attendant increase in the already high rate of coal mine unemployment.

A decrease in the export of U.S. coal and an increase in the import of both foreign coal and other foreign energy fuels will be seen. As a result, both our balance of trade and our efforts to achieve energy independence will suffer.

The NCA/Price Waterhouse Study estimates that over the next five years, under the President's proposal, coal industry taxes will be raised over $1 billion. This represents a 45-percent increase as compared to current law over the same period. It is extremely difficult to contemplate how the coal industry, which has been weakened by soft demand, a strong dollar, and intense worldwide competition, can absorb these tax increases without severe damage.

Recently, your Chairman, The Honorable John Dingell of Michigan, asked the Energy Information Administration to conduct a study of the impact of the President's tax proposal on the energy industry. In the area of coal, the study generally agreed with the Price Waterhouse Report. According to Chairman Dingell, "The coal industry, particularly undergound coal mining, will be hard hit by the tax proposal with a resultant adverse effect on underground coal miners and coal-producing states."

IMPACT OF TAX REFORM ON JIM WALTER RESOURCES MINING DIVISION

At Jim Walter Resources, the impact of these proposals would be nothing short of devastating. As discussed previously, close to 70% of our coal must be sold in the export market where both demand and prices are at a very depressed level. In most cases, we are competing against foreign coal-producing companies that are not subjected to the same UMWA wage and fringe benefits, sociological and governmental regulations that U.S. producers face. In fact, for coal that is produced in countries such as Poland and Colombia, the governments actually subsidize the coal companies to insure a relatively stable economy. These factors have driven the price of coal down and have already caused many U.S. coal companies to be in a loss situation, with another large group already out of business.

Gentlemen, we are no exception. Jim Walter Resources Mining Division had substantial losses at the pretax income level in 1985. The only way we were able to show a slight after-tax profit was due to present tax law credits and internal accounting adjustments. Even with these adjustments, our return on investment was just under 2%. Our present estimate for 1986 shows this situation to continue with further deterioration since export metallurgical coal prices continue to drop without any indication of when a turnaround may be forthcoming. Therefore, any change in the present tax laws that take away or modify present incentives will further add to a very serious situation and, as I said previously, will be nothing short of devastating. In fact, if the tax law changes that were submitted under the Treasury II Proposal and are presently being considered by the Congress had been in effect in our fiscal year which ended August 31, 1985, Jim Walter Resources Mining Division would have been negatively affected after tax by $8.4 million, which would have eliminated our small after-tax profit and placed us in a loss situation. These changes are summarized below along with our estimates for 1986:

	Million Dollars	
	1985 Actual	1986 Estimates
Change in Royalty Income - Capital Gain to Ordinary Income -----	$1.4	$1.6
Repeal of Percentage Depletion ----------------	5.3*	5.3*
Repeal of Investment Tax Credit ----------------	1.7	3.0
Total ------------------------------------	$8.4	$9.9

*Assumes total ultimate impact of complete elimination.

What will be final result? No one can say. Surely, we will attempt to continue to mine coal at full production levels. Yet, I must state that the jobs of at least some of our 3,500 Mining Division employees will be put in jeopardy.

Therefore, it is with complete sincerity that we ask you to weigh carefully these proposals and their impact on the coal industry before making any decisions. Again, we thank you for letting us appear here today and for your consideration of our position on this critical matter.

BIOGRAPHICAL SKETCH

WILLIAM CARR

William Carr was born in Silksworth in Durham County, England on August 11, 1930. He attended Durham University, 1949-1953, on a National Coal Board Scholarship and graduated with a BSc (Honors) degree. While attending Durham University, he was the National Coal Board's and English Universities' Heavyweight Boxing Champion and Captain of the Durham University Boxing Club.

Mr. Carr's principal expertise is the development, organization and operation of deep underground longwall coal mines. His mining career began with employment at the National Coal Board's Dawdon Mine from 1953 to 1955 as Technical Assistant to Manager. He advanced to Undermanager at the Houghton Mine from 1956 to 1958 and the Van Tempest Mine from 1958 to 1961. He progressed to the Dawdon Mine as Mine Deputy Manager from 1961 to 1969 and served as Mine General Manager from 1969 to 1975.

Dawdon Mine is one of the largest and most profitable National Coal Board mines. The workings extend undersea and several seams are mined. This mine employed 2,500 and pioneered the utilization of new mining techniques such as: chainless haulage, full-face tunneling machines, diesel tractor haulage, and radio-controlled longwall shearing machines. Innovative mining systems utilizing longwall advancing and retreating methods, combined with continuous miner development machines and Doscoe roadheaders, were also employed. Advancements in computer techniques in the fields of planning, budgeting and forecasting were developed at Dawdon Mine.

In 1967, Mr. Carr received the Bronze Metal from the National Association of Colliery Managers and in 1959, he was awarded the Tom Seaman Scholarship by the Institute of Mining Engineers of Great Britain. The U.S. Bureau of Mines invited Mr. Carr to the U.S.A. Conference on Safety in 1969 to be Chairman of the session.

In 1975, Mr. Carr came to the United States as Senior Mining Engineer for the Paul Weir Company (a leading international mining engineering consulting firm) in Chicago, Illinois. The Paul Weir Company was retained by the Jim Walter Corporation in 1976 to assist Jim Walter Resources in the expansion and development of its deep metallurgical and steam coal reserves in Alabama. Mr. Carr was assigned this project and in July 1976, he was named President of the Mining Division of Jim Walter Resources and Vice-President of Jim Walter Corporation.

Since 1976, Jim Walter Resources' mine development program has seen production increase from a 500,000-ton-per-year operation to 9 million tons per year, with a projected capacity in excess of 10 million tons in 1987.

One reconstructed coal mine has been brought on stream and four deep shaft mines of 2 million-tons-per-year capacity are in the final stages of development. Jim Walter's coal is low in sulfur, high in B.T.U.'s and is an excellent metallurgical and steam coal, used extensively in domestic electric power generation and in worldwide export markets. These deep coal reserves are perhaps the gassiest in the United States. Jim Walter Resources has employed the latest technology in coal seam degasification principles to remove methane gas in advance of underground mining. These techniques have allowed improved coal productivity from the mines, coupled with substantial improvements in mine ventilation safety.

The techniques used for coal production at Jim Walter Resources are some of the most technically advanced in the coal industry. Because of their recent construction, these mines are highly capital intensive, utilizing equipment and techniques of management and control which are among the best in the coal industry.

In addition to the above achievements, Mr. Carr has contributed articles to the following publications and organizations:

1. "The Use of Advanced Heading Techniques - Dowdon Colliery" - The Colliery Guardian.
2. "Some Aspects of Coal Mining in the Ruhr Coalfield" - Mining Engineer.
3. "Report on Coal Mining in the U.S.A." - Mining Engineer.
4. "Coal Preparation Developments in U.S.A." - Paper to North of England Coal Preparation Society.
5. "The use of Job Specification Techniques" - Paper to N.C.B. Staff Colleges.
6. Several lectures on Management Control Techniques to N.C.B. Staff Colleges.
7. Longwall Prospects - U.K. and U.S.A. - Colliery Guardian, 1976.
8. "Concerns of the Coal Industry" - An address before the Governor's Export Coal Conference - Birmingham, AL, 1982.
9. "The Company, the Union, MSHA - and the Future of Mine Safety" - An address before the Fifteenth Annual Institute on Coal Mining Health, Safety and Research - Virginia Polytechnic Institute and State University, 1984.
10. "Project 2000 - A Strategic Plan for the Bureau of Mines" - Department of the Interior, U.S. Bureau of Mines, 1984.

Mr. Carr is a member of the following:

1. Fellow Institute of Mining Engineers of England
2. American Institute of Mining Engineers
3. Board of Directors of Warrior-Tombigbee Association
4. Board of Directors of Alabama Coal Association
5. Director of National Coal Association
6. Advisory Council of School of Mines & Energy Development of the University of Alabama

He is married, the father of three children, and makes his home in Birmingham, Alabama.

October 22, 1985

Appendix B

PROBLEMS IN THE WORLD COAL MARKET

The American coal industry is unique in all the world. America is the only country in the world where free enterprise and competition between coal producers exist. Outside the United States, in both free and Socialist countries, coal mining is viewed with pride, as a true national resource to be cared for, protected and promoted for a number of important reasons. Coal mining is:

1. A provider of jobs due to its labor-intensive nature;
2. Insurance against energy shortages in the gas and oil market;
3. The provider of a key ingredient for any nation's most important defense industry, steel making;
4. Since the coal is traded in U.S. dollars the world over, a source of hard currency.

Coal is used for heating electrical generation, coke production, or steel making in almost every country in the world. However, not every country has mineable coal reserves. As a result, there is truly a worldwide market for coal. Those countries with the best reserves, considering both quality and cost of recovery, have developed their mining industry to serve the market. The United States, as you know, has an enormous reserve of coal, estimated to supply our needs for 500 years at current rates of consumption. However, due to our longer period of industrial development, the most economical reserves have been tapped, leaving the U.S. mining industry little choice but to pursue more costly reserves to remain in business. This, in turn, has boosted the cost of American coal.

On the other hand, except for Poland, America's competitors in the world coal market are all relatively new to the market. Poland has been a coal exporter to Europe for many years and

Poland has a tremendous market position in the world today. Almost every steelmaker in the world except the U.S. uses Polish coal.

The two other major Socialist coal exporters are China and the U.S.S.R. China has plans on the drawing board to invest $500-$600 million to develop the world's largest mine. The An Tai Bao surface mine could one day produce 45 million tons per year. The U.S.S.R. has invested $5 billion to develop its reserves in the East, just a short distance from the Japanese and Korean steel industries. The Yakutsk coal fields will send two million tons to Japan this year, with the ability to produce another three million tons for export.

In general, competing with Socialist coal-producing countries is extremely difficult. The rules of economics that free enterprise companies must observe do not apply. Creation of jobs, development of remote areas and the ability to create a hard currency flow far outweigh the return on investment that U.S. companies must produce for their shareholders.

Of the free countries that American producers must challenge, Australia, Canada, South Africa, and Colombia are the greatest competitors. South Africa has attracted the most attention lately because the Government's policy of apartheid has created domestic unrest. Black miners, having become dissatisfied with laws that make them ineligible for promotion to better paying, more responsible jobs, have threatened to strike. Cheap labor and the highly devalued Rand currency make South Africa the lowest cost coal producer. Combined with their ideal location to compete both in Europe and the Far East, South Africa is the world's toughest competitor, exporting over 33 million tons last year.

In Canada, the National Government has announced new resolve to improve the business climate for mining generally. Mining is extremely important there; 80% of all minerals produced in Canada are exported. Canada has fallen from the world's fourth largest coal exporter to eighth and has every intention of climbing upward again. And, it appears that success is coming again. Canadian coal has been shipped from Vancouver in Western Canada through the Panama Canal and up to New England and soon to Denmark. Florida Power is now considering such a buy. U.S. inland transportation (i.e., railroad) rates are no match for world shipping rates. Needless to say, Canada also has its eye on the needs of Pacific coal users, and possibly other European customers.

Australia is a relative newcomer to the world coal market. It bears extensive reserves of good quality coal at shallow depths which means low mining cost. Australia is extremely competitive in the Pacific area. With the exchange rate disparity between the U.S. and Australian dollar, Australia can competitively deliver coal to Europe. In Australia, the Government sets prices for coal exports and can be expected to keep Australian coal competitive in the world market.

Colombia is the newest player in the world coal market. Their avowed objective is to capture 10% of the world's steam coal market by the year 2000. The El Cerrejon project, with its new deep water port, should be producing six million tons per year by 1986; and by 1989, full production of 15 million tons should be reached.

Colombia is also benefiting from the strong U.S. dollar, making it most difficult for U.S. producers to compete in Europe. Colombia has over half-a-dozen European customers signed to long-term contracts. It may also be difficult for U.S. producers to compete in the Southern and Eastern U.S. where Colombian coal can be landed at U.S. ports. Electric Fuels Coporation, coal buyer for its parent company Florida Power, has signed a contract for 2.5 million tons over the next four years, and other U.S. buyers are soon to follow. It should be obvious that this foreign competitor is serious about selling its coal in the U.S. when despite its distance disadvantage, it can deliver coal to the U. S. for less than American coal producers.

To say that the world coal market is highly competitive is an understatement. New players, with excellent quality, heretofore untapped reserves, are rushing to supply low cost coal to the marketplace. Improved productivity, even now at all-time high levels, and reduced costs, if possible, point the way for the American producer to succeed. The American producer must absorb substantial costs not faced by foreign producers, which place us at a significant trading disadvantage:

1. High inland (railroad) transportation rates;
2. Stringent environmental laws;
3. Stringent health and safety laws;
4. Lack of deep water ports to load the larger ships to gain the economy of scale;
5. The strong dollar.

Surely with these grave problems, the American coal-producing companies need all the help they can get.

A Report to
The American
Mining Congress

Impact of the President's Tax Reform Proposals on the United States Mining Industry

Executive Summary

Arthur D. Little, Inc.
Jones, Day, Reavis & Pogue

September 4, 1985

Summary of Results

Study results indicate that the President's tax reform proposal, if enacted, would severely damage the already-weakened U.S. mining industry

Investment would decline by 15%, leading to a 20% reduction in output by the mid-1990s

The mining and support industries would lose over 380,000 jobs, many in regions offering few other employment opportunities

U.S. reliance on imports would increase, compromising the reliability of the nation's supply of mineral-based products

In 1984 domestic mines and processing plants produced $50 billion worth of metal ores, non-metal minerals and coal, forming the backbone of many of the nation's basic industrial activities. This critical industry, however, finds itself besieged by growing international competition and, for the last several years, has suffered from the high dollar and weak product demand. The results of this study — conducted jointly by Arthur D. Little, Inc. (a multinational management and technology consulting firm) and the law firm of Jones, Day, Reavis and Pogue — indicate that the President's proposed tax reform, if enacted, would severely undercut the mining industry's already-weakened ability and incentive to compete in world markets.

- Tax liabilities would increase by about 50% for profitable firms, perhaps the largest increase in any business sector.
- Cash flow for typical firms would decline by about 6% and total investment in the industry would decline by about 15%.
- Rates of return on mining investments would decrease by 10 to 20%, while returns in many other industries would increase.

The domestic mining industry would find it difficult to absorb this damage.

- Domestic mining companies generally cannot pass increased costs — including increased taxes — along to their customers because prices are set in the world market.
- The U.S. mining industry has lost world market share in virtually every important mineral product over the last decade. Developing nations have proved to be extremely aggressive competitors. Their need for foreign exchange and employment often drives them to set prices lower and produce more than a conventional free-market approach would dictate.
- The removal of established tax incentives would place U.S. mining firms at a further disadvantage to foreign producers.
- Domestic metal mining employment has declined by 43%, non-metallic minerals employment by 11%, and coal mining employment by 20% since 1980.
- Imports of principal non-fuel minerals and products have increased to nearly $25 billion, while exports have declined to $12 billion. Coal exports have fallen by 30% since 1981.

The 20% reduction in industry output anticipated to occur under the President's tax proposals would aggravate these problems. By the mid-1990s it would result in:

- 76,000 fewer direct mining jobs than under current law.
- Nearly 290,000 fewer jobs in sectors which supply goods and services to mining firms and their employees.
- 18,000 fewer jobs in sectors which supply mining equipment and other investment-related goods and services.
- In total, over 380,000 fewer domestic jobs.
- An increase of over $10 billion (1984 dollars) in imports of ores, non-fuel minerals, and coal.

The reduction in domestic minerals production also would contradict the goals of the National Minerals Policy Act of 1970 and the National Critical Materials Act of 1984. In these Acts, Congress recognized that an economically sound and stable domestic mining industry is vital to assure the fulfillment of the nation's industrial, national security and other needs.

- The proposed tax program would erode American mining self-sufficiency and increase dependence on foreign suppliers.
- It would compromise the reliability of the nation's supply of mineral-based products.
- It would substantially reduce the incentive to find and develop new deposits in the United States and elsewhere.

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Tax Proposal Analysis

The tax proposal would raise the industry's taxes by about 50% while actual investment would decline by about 15%

In this study we analyzed the tax impact of the President's proposals on mining firms in three ways

1. Several companies, which collectively represent nearly 20% of mining output, recalculated their tax liabilities on their mining activities for the period 1979 through 1983 under current law and under proposed law. Including the effects of losses during this period (which were major), these firms would have had their tax liabilities increased by 30% overall weighted on a commodities-produced basis, if the proposed program had gone into effect in 1979.
2. We analyzed, on a pro forma basis, changes in taxes for typical mining companies under profitable business conditions and without regard to accumulated losses or the transitional provisions of the proposal. Such firms would face tax increases of approximately 50%.
3. We set up a model to analyze the financial returns to the owner of a new mine under current and proposed tax law. This analysis, done on both constant dollar and inflated dollar bases, shows that the proposed tax laws would result in a substantial reduction in the long-term financial attractiveness of such investments. For the project analyzed, the rates of return fell between 10 and 20%, and the net present value of the after-tax cash flows dropped over 25%. Such a decrease in returns would substantially undercut corporations' willingness and ability to invest in mining in the long term.

The tax proposal may affect the mining industry more severely than any other business area. The proposed program would eliminate the major incentive to mining firms — percentage depletion — as well as the investment tax credit and accelerated depreciation — allowances which are especially important to the mining industry. Other elements of the proposal likely to hurt specific mining sectors include expansion of the minimum tax, the change in the tax treatment of coal and iron ore royalties and the imposition of a "windfall" depreciation recapture tax. The dividend-paid deduction and the reduction in the maximum tax rate would only partially offset these factors.

These increases in tax liabilities would impact mining output, domestic minerals supply and dependence on imports.

The Mining Industry Today

Over the past few years, mining companies have been besieged by growing international competition, the high dollar and weak product demand

The U.S. mining industry provides a broad range of important basic raw materials, fuels and industrial commodities to the domestic economy and the world market. The industry traditionally has been influenced strongly by the business cycle and has relied on relatively brief periods of high profitability to generate the capital and sustain the incentive it needs to replenish exhausted reserves.

Over the past few years, however, weak demand, depressed world commodity prices and escalating foreign competition have made life difficult for most, if not all, sectors of the industry. Cash flows have barely been sufficient to sustain, much less improve, efficiency at existing facilities.

As a result, cash flows have barely sustained efficiency of existing operations

During this period, foreign producers, especially in developing countries, have increased production, in many cases based on their needs for foreign exchange and employment rather than on the free-market economics of supply and demand.

At the same time the mining industry faces an unusual degree of risk when it explores for and develops new deposits. Long development periods and large, up front investments are necessary to establish new mines and plants, and cost recovery is subject to the uncertainties of international commodity markets. Mining firms have very little control over prices.

The mining industry, therefore, labors under great pressure to improve its efficiency and to increase its profitability and cash flows in order to remain viable in the longer term. Failure to improve financial performance when world market conditions improve will inevitably result in a permanent and significant shrinkage in domestic mining production.

Further reductions in cash flows, therefore, would cut the amount of capital available for investment at a time when such investment is critical. In addition, reduced after-tax returns for the industry in general, and for new projects in particular, would reduce investor incentives substantially.

Impact on Mining Output

In the short term, especially during the transition period from current to proposed tax law, the changed tax liabilities would have a modest impact on the output of the mining industry. The phase-out of percentage depletion would reduce the short-term tax impacts for profitable firms and many firms have accumulated losses and credits which would offset their taxes for some time to come.

Mining firms, however, would react immediately to the longer term changes in taxation, particularly as they affect future return on investments. They would have increased difficulty finding attractive investment opportunities and obtaining investment capital because the relative after-tax profitability of mining versus other types of business for multi-industry firms would be reduced substantially.

The proposed law would discourage new investment immediately and have a major impact on mining output over the next 10 years

In the longer term, the proposed tax program would increase mining industry taxes by approximately 50% and would reduce cash flows by approximately 6%. This decline would inhibit both investments financed internally and investments financed from outside sources, resulting in a 15% reduction in capital spending in mining. This reduction in capital investment represents economic capacity which would not be in place in the future. As a result, we estimate that mining industry output would be at least 20% lower after a decade of the proposed tax program than it would be under the current law.

Impact on Employment

By the mid-1990s the proposed reform would result in about 76,000 fewer direct mining jobs and about 308,000 fewer jobs in support industries

By the mid-1990s the lack of investment and reduced mining output resulting from the proposed tax program would cause direct mining industry employment to be approximately 76,000 jobs lower than it would be under the existing tax laws. In addition, the effects on supplier industries, local support economies, and capital goods and services suppliers would eliminate approximately 308,000 more jobs. Thus, the total employment loss would exceed 380,000 jobs by the middle of the next decade. This does not include the potential impacts in industries which use raw or processed mining products, which may be affected by the declining availability of domestic ores and minerals.

Geographic Impact

These impacts would be felt most severely in Appalachia, Minnesota, Arizona, Missouri and the Rocky Mountain states

We did not measure the potential impact on state and local government revenues, governmental expenditures for human services and related items, but they, along with employment losses, are likely to be particularly acute in the Appalachian coal fields, the Lake Superior iron range and the non-ferrous metal-mining areas in Arizona, Missouri and the Rocky Mountain states. Other impacts — such as increased imports, the decline of suppliers of mining and minerals processing equipment and services, and the security of minerals and metals supplies to domestic consumers — would be widespread.

Impact on Domestic Minerals Supply and Import Dependence

Thus the consequences of the proposal would contradict both the National Mineral Policy Act of 1970 and the National Critical Materials Act of 1984, both of which support mining self-sufficiency

Reduction in output of the domestic mining industry would inevitably increase U.S. dependence on imported commodities. In 1983, non-fuel minerals exports equalled $12 billion and U.S. consumer imports equalled $24 billion. The $10 billion reduction in domestic output projected to occur by 1995 would have to be made up by increased imports.

This would subject the domestic economy to increased uncertainties over the supply and cost of mineral-based products. Congress has addressed this subject many times — notably in the National Critical Materials Act of 1984 and the Mining and Minerals Policy Act of 1970. These Acts recognize the importance of a sound domestic mining and minerals industry to the nation's economic well-being and national security.

Mineral products continue to provide the basis for the industrial sectors which form the core of the nation's economic and defense capabilities. Engineering, transportation, capital goods and construction, as well as a large portion of the nation's energy supply, all depend on mined products.

Over the past decade, the U.S. economy has become increasingly dependent on foreign suppliers of certain mineral and metal commodities which exist in economically viable deposits in the U.S. In addition, many producers have continued to operate in spite of depressed business conditions because they believed that their facilities would become profitable again in the future; if they closed their plants and mines they would be unable to benefit from the recovery. Without the promise of a recovery, however, fewer producers would continue this practice, increasing the reliance on imports. This trend would extend beyond those metals for which import dependence is already a fact of life. U.S. coal also would become less competitive in both the international markets and in certain domestic regions. Other metals, including uranium, titanium and those required for electronics applications (such as silicon, germanium and precious metals), also face reduced domestic production and increased dependence on foreign suppliers under the proposed law.

Thus, the reduction in mining activity brought about by the tax reform proposal would compromise the reliability of the nation's supply of mineral-based products.

Mr. **Sharp.** And now we will hear from Dr. Cargill.

STATEMENT OF ROBERT CARGILL, JR.

Mr. **Cargill.** Thank you, Mr. Chairman. Thank you for the opportunity to be here and discuss with you what I think is probably a slightly different point of view of the tax proposals than you might otherwise hear.

My name is Robert Cargill, Jr. I am a former college professor. I recently returned to east Texas to take over the family business from my father, who is getting fairly old. We are a family-owned business that is involved in oil and gas operations, lignite exploration, and an occasional real estate investment.

Mr. Chairman, I have prepared some papers, and I believe they have been distributed, and I ask that they be made part of the record.

I have another paper that I would like to submit as well, a speech that I gave entitled "The Independent Oil Man: Paul Revere or Chicken-Little." I don't think we have time to reproduce enough copies of that, but I would like to ask that that be submitted as well.

Mr. **Sharp.** With the title, it might be more likely to be read than some other things.

Mr. **Cargill.** As you know, college professors are scheduled to speak for an hour, not 5 minutes, but I will try to limit my remarks.

Mr. **Sharp.** We will appreciate that.

Mr. **Cargill.** First let me say that I think it is fairly obvious to anybody that carbon-based fossil fuels will provide the energy for this country for the foreseeable future: coal, oil, and gas. However, these resources are finite, and I believe that it is imperative that the United States, through its Government, through such agencies as the National Science Foundation, proceed with all deliberate speed to develop such alternative energy sources as solar energy and nuclear fusion.

I want to make it clear that that is a personal belief, that we have got to find some replacements for carbon-based fossil fuels.

I would like to refer to one of my handouts entitled "Income Analysis by Real Operator, 1983–85," in which I have listed operating income and cash available for the years 1983, 1984, and 1985 for a real oil and gas operator, who shall remain nameless, but let's proceed on the assumption that they are mine. That way I can talk about them.

You will see that in 1983, we made a reasonable profit—that is, profit as net cash available for future investment. In 1984, we invested more in drilling and had less cash available. In 1985, we went crazy and invested more, and we are going to end up making a loss in cash available.

Had the new tax proposals been in effect, just considering those on percentage depletion and expensing of IDC's, had those been in effect, you can see on the righthand side of the page, life would have been considerably less pleasant.

I submit to you that I try to be a rational person, having been a scientist for 20 years. I do not claim to be an entrepreneur, but I can assure you that if I were running my family business on the basis of the new proposals, I would find other places to invest my money, such as municipal bonds.

Now it is not really important to this country what happens to me or my business, but I am representative of a large number of small oil and gas producers. You will hear later, I am sure, from Mr. Pitts that he has commissioned a survey which demonstrates that a large number of independent producers will decrease their drilling activities by as much as 70 to 85 percent should these new proposal go into effect. If that is the case, then production in this country will also decrease.

I believe you have also before you another chart, "The Economic Effect of Tax Reform," a draft which looks like this, and you can see the same graph over here on the side of the room. I will not go through all of the details of these estimations, but just based on a 6-percent decline annually in production, which is very conservative, during the period in which the Joint Committee on Taxation estimates an increase in revenue of $11.7 billion, I suggest that you will not collect nearly $12 billion in revenues, but rather, we will have to import an extra 2 billion barrels of oil.

If you assume a constant price of $25, which seems reasonable, that is a little over $50 billion added to the trade deficit. And if you also figure that you would have spent that money in the United States, that $50 billion would have been multiplied by a factor of 6, according to my economist, and therefore we would give up the tax on 6 times $50 billion, and that's the tax on $300 billion. And I submit that is probably in excess of $12 billion, in addition to a lot of jobs.

I think at this point, I have covered the points that I would like to make with you. I would be glad to answer any questions.

[Testimony resumes on p. 845.]

[The following information was submitted:]

ECONOMIC EFFECT OF TAX REFORM

Robert Cargill, Jr. - November 5, 1985

1. Tax reform proposals that affect oil and gas production are estimated by the Joint Committee on Taxation to produce $11.7 billion during 1986-1990. Independent oil producers, however, estimate the proposed tax reforms will not raise $11.7 billion in revenue, but will result in a loss of $45 billion in revenue (at 15% rate) due to decreased domestic oil and gas production.

2. Independent oil producers estimate that, if enacted, these proposals will cause a decrease in their drilling by a minimum of 71%. Producers translate this decrease in drilling to a similar decrease in new production. (See Pitts survey of October, 1985).

3. Wells typically have a natural decline in production over time. This decline is estimated to be at a rate of 12.5% annually (from Rowan-Ungerecht, Petroleum Engineering Consultants, Tyler, Texas). M Corp, a major Texas bank, uses 20%.

4. Assume the demand for crude oil and NGL (natural gas liquids) will remain at 16.5 MMBD. In order to satisfy current demand level, the oil and NGL not produced domestically must be imported at a rate of 6.0 MMBD.

5. A decrease of 71% in drilling and the concurrent decrease in production will result in a need for additional imports of at least 2.1 billion barrels through 1990. At $25 per barrel, this amounts to an export of an extra $53 billion of potential domestic economic activity.

6. Since domestic expenditures are multiplied as they pass through the US economy, the tax revenue lost by exporting such expenditures must be determined by multiplying those expenditures by an appropriate factor and then figuring the tax on the resulting amount. If a factor of 6 is used, the tax on $318 billion will be lost. At a 15% rate, this amounts to $45 billion.

NEW IMPORTS RESULTING FROM TAX REFORM [a]

year	demand	production		current imports[b]	new imports
		12.5%↓[c]	6%↓[d]		
'84	16.5	10.5	10.5	6.0	0
'85	16.5	10.5	10.5	6.0	0
'86	16.5	10.5	10.5	6.0	0
'87	16.5	9.2	9.9	6.0	0.6
'88	16.5	8.0	9.3	6.0	1.2
'89	16.5	7.0	8.7	6.0	1.8
'90	16.5	6.2	8.2	6.0	2.3
					5.9 Total

a numbers in MMBD
b includes misc. of 0.8 MMBD
c 12.5% annual decline after 1986 (no new wells)
d 6% annual decline after 1986 (71% decrease in drilling)

5.9 MMBD x 365 = 2.15 BILLION BARRELS TOTAL OF EXTRA IMPORTS
2.15 x $25/B = 53.8 BILLION ADDED TO TRADE DEFICIT BY 1990

INCOME ANALYSIS BY REAL OPERATOR, 1983-85

EFFECTS OF IDC AND PDA[1],[2]

	Actual			Projected[4]		
	83	84	85	83	84	85
			(in thousands)			
Gross WI Income	1,492	1,300	1,138	1,492	1,300	1,138
Operating Expenses	194	324	345	194	324	345
Taxes[3]	218	164	160	218	164	160
Overhead	250	293	300	250	293	300
Total Expenses	662	781	805	662	781	805
Net Income	830	519	333	830	519	333
Depreciation	54	54	41	54	64	86
Depletion	212	143	125	-	-	-
Total Non-Cash	266	188	166	54	64	86
Net Before IDC	564	331	167	776	455	247
IDC	186	226	400	-	-	-
Taxable Income	378	105	(233)	776	455	247
Income Tax	189	52	-	388	228	123
Net Income	189	53	(233)	388	228	124
Add Non-Cash	266	188	166	54	64	86
Less Tangible Dev.	(51)	(50)	(100)	(237)	(276)	(500)
Net Cash Available	404	191	(167)	205	16	(286)

1. IDC: intangible drilling costs expensed
   PDA: percentage depletion allowance

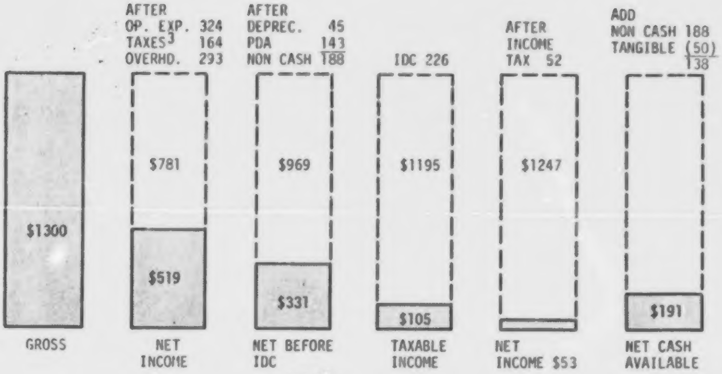
2. No consideration here of any minimum tax

3. Includes severance tax (oil, 4.6%) (gas, 7.5%), ad valorem tax, crude oil excise tax

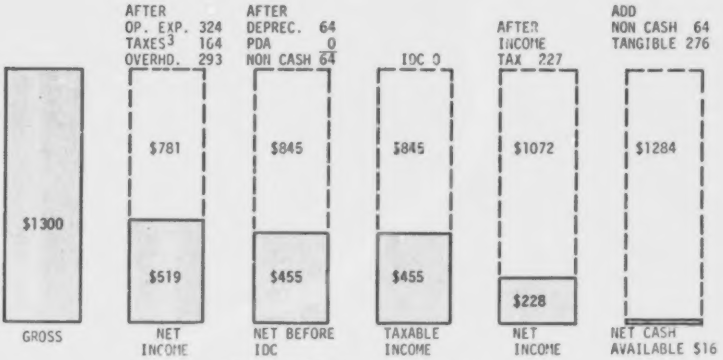
4. No PDA, capitalize IDC over 10 years

Ref: D/40

INCOME ANALYSIS BY REAL OPERATOR 1984
EFFECTS OF IDC AND PDA[1,2]



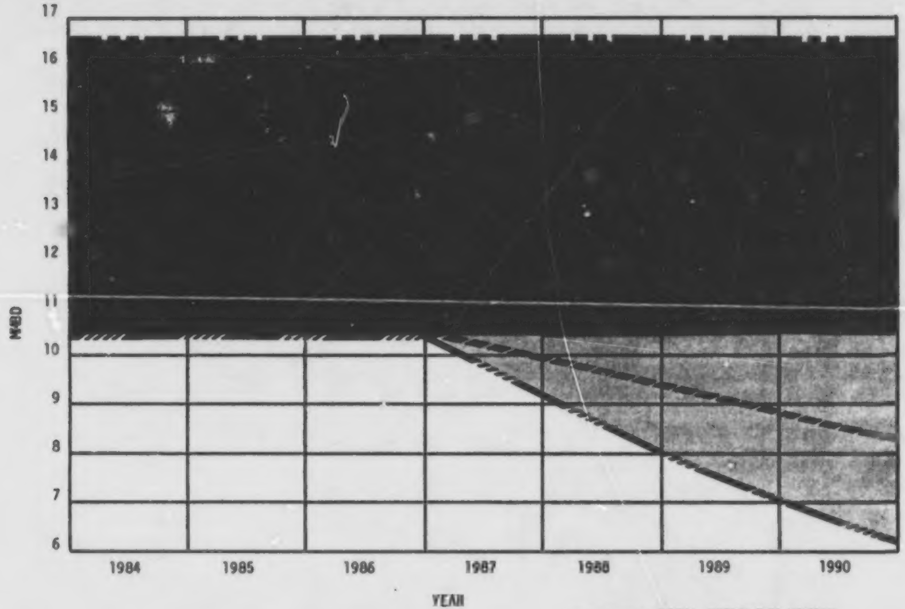
ACTUAL



PROJECTED (Without IDC, PDA)

1. All Dollar Figures in Thousands
2. IDC: Intangible Drilling Costs expensed
   PDA: Percentage Depletion Allowance
3. No consideration here of any minimum tax
4. Includes Severance Tax (Oil, 4.6%) (Gas, 7.5%), Ad Valorem Tax, Crude Oil Excise Tax

NEW IMPORTS RESULTING FROM TAX REFORM



NUMBERS IN MMBD (MILLIONS OF BARRELS PER DAY)
5.9 MMBD x 365 = 2.15 BILLION BARRELS TOTAL OF EXTRA IMPORTS
2.15 X $25/B = $54 BILLION ADDED TO TRADE DEFICIT BY 1990

TAX REFORM (?)

Robert Cargill, Jr., 11-05-85

I. GENERAL INFORMATION

A. For a general overview of the petroleum industry (Independent Producer's view) see "The Independent Oil Man:Paul Revere or Chicken Little" by Robert Cargill, Jr., 09-19-85, (Speech).

B. Proposals for "tax reform" generally eliminate two tax incentive items: (1) expensing of intangible drilling costs (IDC's), and (2) percentage depletion allowance (PDA). The tax rate is reduced from 50% to 35-40%.

C. Independent producers drill approximately 90% of new field wildcat wells in the US, and approximately 87% of all wells drilled in the US. See p. 6 of Speech.

D. About 80% of wildcat wells are dry holes; about 20% of development wells are dry holes; and about 30% of all wells drilled are dry. Most wells drilled are development oil wells. See Figs. 3, 4 of Speech. Only one in 50 wells finds one million or more barrels of oil.

E. The number of new field wildcat wells drilled in the US peaked in 1981 at 9151; it had dropped to 5459 in 1984, fewer than in any year since 1975.

F. The petroleum industry, both majors and independents, have reinvested abnormally high percentages of their wellhead revenues in further drilling and exploration (70-110%). See Fig. 9 and p. 13 of Speech.

II. TAX INCENTIVES AND "REFORM"

A. The tax incentives cited in IB above allow the expenditures noted in IF.

B. IDC includes costs of labor, fuel, transportation, the intangible costs of the drilling and completion processes, and they are expensed in the year incurred. The tangible costs (tanks, pipe, pumps, etc.) are capitalized. IDC's comprise 65-75% of the cost of a well, typically $350,000 on an 8000' well and $700,000 on an 11,000' well. See p. 11 of Speech.

C. The expensing of IDC's is equivalent to a farmer's expensing the costs of labor, seed, fuel, etc., in his planting operation. See p. 11 of Speech.

D. The percentage depletion allowance (PDA) was enacted in 1926 because cost depletion was too difficult to administer, and was made available to all extractive industries at rates from 5-27-1/2% of gross income. Today the oil/gas depletion allowance is 15% for both producers and royalty owners. See p. 12, Fig. 8 of Speech.

E. The PDA for royalty owners is analogous to depreciation allowed on a capital asset. The royalty owner leases to a producer who depletes the asset and pays a rental fee in the form of royalty payments. There is no effort to deprive landlords of depreciation.

F. The expensing of IDC and the PDA increase the cash flow of the producers (at 50% tax rate) by 7-1/2% of income and 35% of well costs. It is these funds which are reinvested in the search for new oil/gas.

III. CONSEQUENCES OF "REFORM"
  A. Domestic Drilling
    1. Only 2% of favorable basins in US have been drilled. How much more oil/gas remains hidden in US? See Pitts map.

    2. Present proposals applied in 1983 and 1984 would have reduced my working capital by 50% and 80%, respectively. If these measures are in effect in 1986, my drilling activity will be reduced to 20% of 1985 level, or terminated.

  B. Imported Oil

    1. A general reduction in drilling activity will increase the demand for imported oil and equivalents. If demand remains constant at approximately 16 MMBD, and if current wells follow a normal decline, the demand for new oil in 1994 will be 6 MMBD. Will it be found here or imported?

    2. To import half the 6 MMBD of new demand (8 MMBD if a 2% increase in demand is assumed) would result in imports of 8-9 MMBD, approximately half the US demand. Imports peaked at 44% of demand in 1979, and were 36% in 1973-74. Remember the crises then?

    3. Increased dependence on imports will increase our trade deficit by the price of the oil plus the extra cost of securing the shipping lanes for the tankers. These extra costs evidently exceed $50 billion per year. At an import rate of 2 billion barrels per year (current rate), these costs must exceed $25 per barrel. See p. 20 of Speech.

    4. The American tax payer cannot afford in economic terms "tax reform" that puts the US back in the hands of Middle Eastern oil ministers.

  C. National Security
    1. The only real, long term sources of imported oil are unstable countries in the Middle East and Africa.

    2. Reliance on these fair weather friends is expensive and dangerous to our security.

    3. In a crisis, the US could be denied strategic petroleum, and would be at the mercy of potential enemies.

    4. We must not forget the lessons of WW II and of the 1970's.

Ref: D/40

THE INDEPENDENT OIL MAN:PAUL REVERE OR CHICKEN LITTLE?

Robert Cargill, Jr.

(9-4-85, for delivery on 9-16-85 to AIChE, Kingsport, TN)
Revised 9-19-85

Today, wellhead prices of oil and natural gas are falling, but these decreases are not evident in prices at the gasoline pump or at the residential burner-tip.

The world is awash in a sea of oil. We are in the midst of a "gas glut". Yet, we are cautioned by producers that shortage is just around the corner.

The tax breaks of the oil/gas industry are under attack as never before. Producers respond with arguments about our national security being threatened by removal of the percentage depletion allowance and IDC (intangible drilling costs) write-offs. (Every special interest mounts equivalent arguments for maintaining its tax incentives.)

The US continues to import oil and natural gas, admittedly at a lower rate than in 1980, but at a rate such that these imports account for 40-45% of the US trade deficit (M. Wallace, 1-23-85).

Our rising national debts (budgetary and trade), strong dollar, high real interest rates, relatively high unemployment, and our continued dependence on imported petroleum are interwoven in a tangled mess which is overlaid with a dense fog of inconsistent, often conflicting, regulations and politically opportunistic egos of all stripes.

The politicians from nonproducing states have successfully practiced on the petroleum industry the art of "divide and conquer". The arguments between the independent producers and the major companies, among producers and natural gas pipelines and local distributing companies (LDC's) are grist for the mills of politicians and regulators. But who is the real loser? It's the consumer.

Is the US vulnerable to a serious breach of its security as a result of its Energy Policy (no policy is a policy) as many in our industry state? Or, are the J.R. Ewings and Blake Carringtons just trying to protect their comfortable life styles? Paul Revere, or Chicken Little?

The public is being asked to answer a number of very complex questions regarding national energy policy. But, the only experience with petroleum for most consumers (and that includes us producers) is in the utility bill, at the gasoline pump, or at the TV with "Dallas" and/or "Dynasty." The complex geological, legal, engineering, economic, and political problems that span the process from prospect to burner-tip are well beyond most who participate. Certainly those whose only participation is as a consumer must become better informed about this industry on which our nation is so dependent.

Let it be clear from the outset that I vigorously support the development of alternative sources of energy in the US; in particular, I see nuclear fusion and the sun as the energy sources of the future. Although the economic incentive for full scale development of either of these methodologies is well into the future, vigorous research and pilot programs in these areas should be sponsored by industry, with appropriate tax incentives, and by government. We in the petroleum industry recognize that our supplies are finite, and that other fuels than oil and gas must be available before the wells run dry.

Thank you for the opportunity to share with you an independent producer's assessment of a few aspects of the oil and gas business. An independent producer is typically involved only in exploration and production of oil and gas, whereas a major or integrated oil company transports, refines, and distributes oil, gas, and their products, in addition to exploring for and producing petroleum.

Who are the participants in the Domestic Petroleum Industry? (See Fig. 1).

1. The Mineral Estate Owner
2. The Producer (the Operator and his Investors and Lenders)
3. The Transportation Segment, comprised of:

a) Oil pipelines which are common carriers that transport oil without taking title.

b) Natural gas pipelines which are not common carriers. They (until now) only transport gas to which they take title. As regulated monopolies, they are allowed by law a "reasonable rate of return", generally 10-13% on their investment. A regulated utility may bill its customers for the full cost of serving them, including a reasonable profit; but most regulatory bodies allow profit only on the depreciated original cost of the utility's investment in facilities. Absent new construction, the utility's rate base (therefore profits) will diminish with time (Tussing & Barlow).

c) The local distribution company (LDC) buys natural gas from the pipeline, adds on its "rate of return" (it is likewise a sanctioned monopoly), and sells to the consumer.

4. Oil Transformation and Distribution Segment comprised of:

a) Refineries who buy from the producer, or intermediate purchaser, transform the oil into products, and sell to the distributor.

b) The Distributors are:

1) Service Stations (chain, independent)
2) Fuel Oil Distributors
3) Other

5. The Consumer Segment is made up of Industrial, Utility and Retail Consumers.

6. The Regulators

The production, transportation, and distribution of energy (oil, gas, products) in the US all take place under a maze of federal and state regulations. As with all such regulations, energy related rules are the result of political action and are often promulgated by ill-informed or mis-informed, if well-meaning, legislators. The most unpleasant aspect of the regulatory process is that although the regulators are subject to public review, the staff workers on the various commissions tend to remain while the commissioners change. Thus the staff becomes more knowledgable than the Commission, develops its own bias, and rules the Commission.

The Federal Energy Regulatory Commission (FERC) replaced the Federal Power Commission (FPC) in 1978 as the main federal regulatory agency. In Texas, we look to the Railroad Commmission (RRC). The Congress created the Interstate Oil Compact Commission (IOCC) in 1934 as an energy advisory commission made up of representatives from producing states, but has largely ingnored this Commission throughout its history.

In states where subsurface products of value exist, the ownership of such products may (but not must) be separated from surface ownership. This separation, common in Texas, is not usually practiced in nonproducing states, but is not difficult in concept. One may reserve rights to remove subsurface materials when title to the surface is transferred. In such cases the mineral estate is superior in the eyes of the law to the surface estate. Thus, the mineral owner has the right of access to his minerals through the surface (with some limitations) and must pay the surface owner only actual damages for his use of the surface in the drilling and production of a well. (See Fig. 2.) The mineral estate owner may lease to the working interest owner(s), the producer, the right to drill for petroleum, usually for a specified period of time and for a cash bonus of $100-500 per acre and a royalty interest in any petroleum produced, typically 1/8 - 1/4 of the income attributed to his acreage. Thus, a 1/8 royalty interest in a 64-acre tract as part of a 640-acre unit will receive 1/80 of the income produced from all wells that produce from that 640-acre unit. The royalty income thus produced is subject to the applicable state severance tax (in Texas 4.6% for oil and 7.5% for gas), Windfall Profit Tax (WPT) for oil, and income tax, with a deduction for percentage depletion (to be discussed later).

In the typical case, the mineral estate owner does not (but he might) participate in the financial risk of drilling. His royalty income is obtained risk free.

The exploration for oil and gas is carried out by individuals or companies who are willing to play high risk, high stakes poker. On the large scale end, exploration is carried out by the major (or integrated) oil companies such as Exxon, Shell, Mobil, and by some pipeline companies which have branched into exploration such as United Gas and Arkla, even though they have protected status as regulated utilities. At the other end of the scale are small independent operators, who are active only in exploration and production, and have none of the transportation, etc., facilities of the majors, and whose capital is limited. My company is typical of the smallest in this segment of the industry.

The large companies have the capital to invest in offshore and foreign activities. Their local onshore activity is typically in the development of known deposits rather than in exploratory or "wildcat" drilling for new deposits. They have acquired extensive acreage (leases) over the years, and can sublease (farm out) to independents some of their acreage for exploratory drilling while retaining an income interest in any production (an overriding royalty interest) without the risk incurred in drilling.

Historically, the independent producers have drilled 80-90% of the wildcat wells in the continental US and they drill most of the development wells.

Let's consider the statistical risks involved in the drilling of oil and gas wells. About 80% of the exploratory wells are dry holes, and about 20% of development wells are abandoned as dry holes. (See Fig. 3.) Most drilling is developmental and the percentage of dry holes overall decreased from 43% in 1968 to about 30% in 1981. (See Fig. 4.)

In practice every well is a wildcat because unless one drills a well, he cannot be sure that the oil or gas is present. And unless the well is successfully completed (put on line) he cannot know whether the oil or gas could be brought to the surface. I can assure you from painful personal experience that many a "development" well has been plugged even though oil (or gas) was clearly present, because of problems associated with completion. I have been involved in three such wells since 1980. Thus, even "development" drilling of "cinches" is still a risky business.

What is involved in the drilling of a well, and what is the cost?

A typical Cotton Valley (the name of the rock formation) gas well costs in excess of one million dollars in direct expenses. (See Fig. 5.) These expenses are illustrated. Factors that may affect the price are: (a) the size of the unit (in some areas an oil unit can be as small as 5 acres. Unit size is determined by the regulatory agency after several wells provide data on a given reservoir); (b) the depth of the well (drilling costs increase exponentially with depth. An 8,000 ft. hole costs $300,000, an 11,000 ft. hole, $600,000, for example); (c) the nature of the stimulation (carbonate formations are treated with hydrochloric acid, tight sandstones are fracture stimulated by forcing a gel containing sand under high pressure into the formation. Such "sand fracs" may involve up to 500,000 gallons of gel containing 2 million pounds of selected sand and cost $400,000); (d) completion anomolies; and many other factors.

Corroboration of these costs for a Cotton Valley gas well come from the Pitts Energy Group whose wells in Freestone County, Texas, at 12,500 to 13,000 ft cost $1.5-2.0 million to drill and complete during 1984 and 1985.

The string of steel pipe in an 11,000 ft. well, nearly 400 thirty-foot joints, may fail during drilling or during stimulation. An 11,000 ft. string of 5-inch pipe is like a wet noodle. The torque is applied at one end, and we expect to know accurately where the bit is!

Here is an opportunity to consider the issue of imported steel. Most domestic operators have preferred to purchase "oil country tubular goods" from domestic producers. (These goods are drill pipe, casing and tubing. Drill pipe is the pipe used in the drilling operation and must be able to withstand high torque. Casing and tubing are larger and smaller, respectively, pipes placed in the well bore for long term production. The casing is cemented in the hole, and tubing is often inserted through the casing to the point of production. These pipes must be able to resist corrosion and must withstand the high pressures involved in fraxture stimulation.) Unfortunately, US produced tubular goods have been much higher in cost and lower in quality than Japanese goods, in particular. The labor costs in the American steel industry have averaged $13.50 per hour for four years while Korean workers earn a tenth of this. (Dallas Morning News - 9-2-85).

During the drilling boom of 1978-1981, as much as 50% of the steel delivered to the oil companies was rejected as deficient, and rejection rates of 20% were common. Exxon's requirement that rejections not exceed 3% of any shipment were not met by many US manufacturers, but were consistently met by the Japanese. Consider the effect of a pipe failure druing drilling or testing on the cost of a well, then remember that in a 9000-foot well there are 300 sections of 30-foot pipe. A failure rate of 1% is too much.

The costs already shown are payable at the time of service (no credit), and do not allow for any of these problems, nor do they include the overhead required for geological personnel, landmen, lawyers, insurance, accounting, and revenue distribution, and operation expenses. In our small company, these expenses were in excess of $290,000 in 1984. Larger independents have much greater expenses to recover.

Gas wells drilled 30 years ago were profitable even though gas brought only 10¢/MCF, but a present-day well bringing $2.25-2.85/MCF is less profitable. (See Fig. 6.) (The unit MCF = one thousand cubic feet and is equivalent to approximately 1 million BTU). The obvious differences are the well costs then and now, and the rates of production. These 1955 data are taken from wells drilled by my father in the 1950's, and the other from recently drilled wells. As time progresses, expenses continue to increase and deeper drilling is required. Typically the deeper formations are less porous and permeable and will produce at a lower rate, after an initial surge.

Although occasional wells that will produce 5 MMCF of gas per day are still encountered, they are rare. A good gas well will produce 1 million cubic feet per day (1 MMCF/D). If we consider oil production, the original wells of the East Texas Field would make 10,000 barrels of oil per day (BOPD), now 50 years later those that still produce are making 2-10 barrels per day. Any operator who brings in a 100-barrel well today will be extremely happy. In general, the initial rate of production of any well is its greatest. The decline in rate of production is exponential. A greater rate of decline is observed when the producing formation is "tight". A typical decline curve for a "tight" gas well such as one producing from the Cotton Valley formation is shown in Fig. 7. Regulatory bodies insist that wells be produced at a rate designed to lead to maximum economic recovery (MER). Typical primary recovery methods normally lead to production of 25-30% of the oil or gas in place. On the other hand, the Saudi Arabian wells are very high volume wells, producing in the thousands of barrels per day, and have been for a long time owing to the high porosity and permeability of the producing formation(s).

One can make considerable profit by drilling for oil and gas if he is lucky (good), but the risk is very high. Why would a rational person invest in a drilling venture? What would you consider a reasonable return on your own investments? Insured CD's are paying

8-10% (no risk). AAA rated municipal bonds are paying 9-10% and are exempt from income tax, providing the equivalent of 18-20% return for a 50% bracket investor (slight risk). Some brokerage houses are now offering special types of accounts involving commodities and take over arbitrage in which the risks are said to be no greater than those of buying and selling stocks, and on which typical yields are 30-40%. Thus, in order to justify the overhead and the high risk investment in the drilling of wells, an investor must demand an average return of much greater than 30%.

Because the price of natural gas has dropped to about $2.50 and "takes" (the amount of natural gas the pipeline is willing to take) are down to 200-500 MCF/D, per well, we have cancelled a four-well program of Cotton Valley tests, and have ceased pursuit at the first stage of a 10-20 well program. In 1984, we were granted permits to drill two wells in what we planned as a 30-well program of cheap, shallow exploration. Even after the expenditure of several thousand dollars, we decided to cancel this program for lack of economic merit. Many of my colleagues who have continued to drill are now in financial trouble.

As the price of oil drops (some predict $15 per barrel will be the minimum), drilling activity will decrease further.

As drilling decreases the drilling contractors will continue to stack rigs, or sell them. The rig that drilled one of my recent wells (which was abandoned as a dry hole in February, 1984) was sold in December, '84 for $327,000. It had been purchased in 1979 for $3.4 million. During 1984, an auction lot in Tyler, Texas, had reserved 10 acres for rigs repossessed by a single bank. This bank had a loss, in one quarter of 1984, of 192 million dollars. The auctioneer told me that the rigs would bring 10-25 cents on the dollar. This auctioneer announced bankruptcy in August, 1985.

Furthermore, as oil and gas prices decline the profits of publically held companies such as Exxon, etc., will fall, to the distress of employees and stockholders. The well servicing industry will disappear, creating further unemployment. The state and federal governments who impose severance taxes, income taxes, and windfall profit taxes will see serious declines in revenue. The price of gasoline will decrease, and the consumer will be happy for a brief period (until the supply of domestic oil and gas reaches some minimum level). Then, with the domestic industry in shambles, we will again be dependent on foreign production, and all will pay dearly for it.

We often hear of the preferential tax treatment afforded the petroleum industry. There are two items of preference, the expensing of intangible drilling costs (IDC) and the percentage depletion allowance.

The IDC is that portion of drilling cost not attributable to permanent well equipment. Most of IDC is labor, fuel, insurance, electricity, etc., and comprises 65-75% of well costs. As an incentive to get wells drilled, the Congress allows these costs to be expensed (written off in one year) rather than capitalized (written off over several years). The tangible costs (pipe, pumps, tanks, separators, etc.) must be capitalized. There is no write off (expensing) in excess of actual expenditure. This arrangement is exactly the same as the immediate write off by the farmer of the costs of labor, fuel, seed, etc. The immediate write off of the costs of advertising, of training and education, and of research and development, are also analogous to the current tax treatment of IDC. In these cases the benefits, like those of IDC, continue long after the year of the expenditure.

Percentage depletion is another ill-understood, emotional issue. (See Fig. 8.) One always hears of the oil depletion allowance, but rarely of the depletion allowances for all other extractive industries. The current depletion allowances for other materials are shown in Fig. 8.

Before 1926, the extractive industries were required to use cost depletion based on discovery value. Both depreciation and depletion were adopted in order to encourage investment. Since application of depreciation or cost depletion to extractive industries was cumbersome and almost impossible to administer, partially because determination of the values of deposits was essentially impossible, the Congress enacted a substitute for depreciation in the Revenue Act of 1926. Thus a certain percentage of the gross income from the extractive process is deducted before arriving at the adjusted taxable income. This deduction is limited to a maximum of 50% of profit before operating expenses and taxes, and is computed without allowances for the inevitable exhaustion of the asset (petroleum, iron ore, etc., deposit). This percentage depletion allowance is not available to major companies (who would normally choose cost depletion anyway) and it is abolished when a proven petroleum property changes hands.

The depletion allowance is exactly analogous to the depreciation allowed on any capital asset. The mineral owner leases the asset (a depletable one) and is entitled to the equivalent of depreciation on a rental building. The royalty income received by the mineral owner is the equivalent of rent.

These two tax preferences available to independent producers have the effect of increasing their cash flow and thereby allow more funds to be reinvested in drilling. Note that assuming allowance of depreciation for IDC and depletion, these tax preferences affect the timing of tax on a given property, not the amount. And by allowing reinvestment to produce further taxable income (new wells), they actually tend to increase tax revenue rather than decrease it.

The independent producers of the US have traditionally reinvested in exploration, development, and production more than they have recovered in wellhead revenues. This figure includes funds raised from outside investors and borrowed funds. (See Fig. 9.) The 24 largest major companies have reinvested a lesser, but significant, percentage of their revenues. The manufacturing industry typically reinvests about 20% of gross sales into capital.

The tax preferences cited above allow this abnormally high reinvestment and the reinvestment figure illustrates part of the reason that independents have drilled 85-90% of all wells in the U.S. In 1982, independents drilled 88.5% of all wells drilled in the U.S. and more than 90% of the new field wildcat wells.

I cannot avoid a mention of the so-called Crude Oil Windfall Profits Tax. The set of circumstances extant during the 1970's included (a) the OPEC oil embargo, (b) a dramatic rise in the price of oil, (c) increased profits for the major oil companies from 10% to 20% (d) incredible arrogance and poor public relations by the oil companies, (e) an ignorant, if well-intentioned, president, among others.

Mr. Carter, with the help of the news media, sold the public on a "soak the oil companies" campaign because the oil companies were reaping "obscene" profits owing to the rise in OPEC prices. (See Fig. 10.) The 100% increase referred to above was bought (as it was sold) as 100% profits. Remember that I have already mentioned today's risk free returns of 10-20%, and corporate profits today are typically in the range of 15%. The oil companies were reaping a "windfall profit", and a tax on them would help alleviate a looming deficit problem (although the funds collected were to be used for development of alternative energy sources.) The WPT was enacted in 1979 (after failing in 1977).

The new tax is not a tax on profits but is an excise tax on domestic, not foreign, production of crude oil. Three tiers of oil were defined: old, stripper, and new (tiers 1, 2, 3, respectively). The tax is levied on the "windfall profit", which is defined as the difference between the removal value and an adjusted base price. (See Fig. 11). The latter is $18.45, Tier 1; $22.84, Tier 2; $27.91, Tier 3, effective 3rd quarter 1985, adjusted for inflation. (This is a gross over simplification, but is adequate for discussion.) The assumption that oil prices would escalate continuously was incorrect. The tax revenue generated thus far by the WPT is one-half of that anticipated, and with falling prices, will fall drastically. There is no WPT on post 1978 discovered oil now. The WPT act was drafted by individuals who did not understand the oil business and its jargon; thus, the act is so confusing that it is not administrable. The amount of extra paper shuffling (wasted time) owing to a poorly-drafted law, not to mention an ill-conceived one, is astronomical. At least, it may have created employment for some.

It was originally estimated that the WPT would generate a total of $227 billion in revenue before its scheduled termination in 1993. (See Fig. 12.) Through 1983, less than half the expected tax receipts had been realized. Mr. Carter told us that these funds would be used for research on alternative sources of energy; but, instead, the monies go into the general fund.

The most interesting aspect of the WPT is that President Carter sought to "achieve energy independence by decreasing imports and increasing domestic production." The WPT is a tax on domestic production and is not applied to foreign production imported into the

US; thus, it cannot help achieve this objective. Furthermore, the public attack was on the major companies, and indeed their WPT rates are higher than those of independents. But most of the domestic wells are drilled by independents, and nearly all the imported oil is imported by the majors.

The WPT is an example of incredibly good salesmanship; but it is a counter-productive tax, and it should be repealed.

Where can new petroleum reserves be found in the US? At the risk of insulting you, I am forced to point out that oil and natural gas are found in the microscopic pores of rocks, not in pools of liquid. To the extent that these pores are connected, the fluid may pass through the rock until it is concentrated in a trap. Traps are formed when a porous, permeable formation (generally a sandstone or limestone) is over- and under-laid by non-porous, non-permeable rock such as shale. Some of the kinds of reservoirs (traps) in which oil/gas is usually found are shown in Fig. 13. A map of the US prepared by Pitts Energy Group, Dallas, shows where the sedimentary basins that are potentially capable of holding petroleum (oil and/or gas) are located. (See Fig. 14.) The interesting fact here is that less than 2% of this "favorable" area has been explored by drilling. The claims that the US has no reserves left to be found are hardly convincing when one realizes that 98% of these potential basins remain to be tested.

In response to the energy crisis of '73-'74 and to President Carter's firm beliefs that energy prices were immune to market forces, that OPEC would continue to increase prices, that consumers would refuse to reduce consumption, and that little or no domestic petroleum reserves remained to be discovered, the Congress passed the Natural Gas

Policy Act (NGPA), the Fuel Use Act, and the Crude Oil Windfall Profit Tax Act.

Under the NGPA of 1978, Congress created 27 different categories of natural gas, all of which were and continue to be treated differently. You will recognize that methane is still methane whether it is old, new, tight, or synthetic, and that differential pricing of this one commodity, both above and below the market clearing price, is absurd. See Fig. 15 for a comparison of prices for various categories of natural gas.

The NGPA allowed, but did not mandate, high prices at the wellhead for some categories of natural gas. In particular, gas from depths greater than 15,000 ft. and gas from "tight" formations brought up to $8/MCF for a short time. At this point, the pipelines, which had been critized for holding insufficient reserves during the crisis, began to bid and outbid each other for large supplies of natural gas, including "tight" gas. In response to the high prices and takes bid by the pipelines, drilling activity was markedly increased. Too much was invested by bankers, individuals, service companies, etc., in a flurry of drilling. (See Fig. 16.) Greed showed its ugly head. By late 1981, producers were bringing more gas to the wellhead than the pipelines could sell, and drilling activity dropped precipitously.

At the same time the Fuel Use Act prohibited the burning of natural gas in some large scale industrial facilities; thus, the pipelines lost some very important segments of their markets. This resulted in the formation of the gas bubble.

The pipelines began to force renegotiation of their contracts with producers with respect to price and/or take. In some cases, contracts were unilaterally abrogated. Most of the gas from "tight" wells that was sold in 1981 for $6/MCF is now bringing $2.85/MCF, or less; (See Fig. 17.) drilling activity has decreased markedly; takes have been drastically reduced; and a number of wells have been shut in because the pipelines will not take the available gas, even that contracted for. Some marginal wells are now being plugged and abandoned because of falling prices, resulting in loss of remaining reserves.

You, as consumers, are concerned primarily with the purchase (and thus the price) of gasoline, heating oil, and natural gas. You hear and read daily about prices of these commodities at the wellhead, but you pay the end price. You have been bludgeoned with reports of rapidly escalating prices of oil and natural gas, and, certainly, these prices to the consumer have risen markedly during the past 15 years.

Let us focus here only on natural gas since time will not permit adequate discussion of both oil and gas.

The prices shown in Fig. 18 are for Brooklyn Union Gas Co. and were disclosed by an officer of that company at a Gas Market Seminar in June, 1984. The components of the burner-tip price are: (a) the wellhead price, (b) transmission costs from wellhead to the city gate, and (c) the price the consumer pays the Local Distribution Company (LDC). For Brooklyn Union's customers, gas that averaged $3.20/MCF at the wellhead cost them $8.50. The $5.30 difference is made up of the pipeline's cost plus chartered profit on investment, here $1.30/MCF, and the LDC's similar cost plus profit, $4.00/MCF. The major portion of transportation and distribution payments arise from investments in pipelines and fixed assets. Once the pipeline is in place and a return thereon established, increased profits must come from other investments.

If the transportation system is used at its capacity, the consumer's cost per MCF is minimized. (See Fig. 19.) On the otherhand, when the system is less than fully utilized, the consumer's cost goes up even if there is no change in wellhead price. When the transportation and distribution system are fully utilized, gas which costs $2.71 per MCF at the wellhead can be delivered to the burner tip for $5.53 per MCF.

When the system is operated at one-half its capacity, the transportation and distribution costs per unit are approximately doubled, and result in a burner-tip cost of $8.35 per MCF.

The relationship of production, transmission and distribution costs have changed in parallel between 1955 and 1978. (See Fig. 20). The relationship between the average wellhead price for natural gas and the CPI between 1936 and 1982 provides an interesting study. (See Fig. 21). Between 1936 and 1970 the wellhead prices of crude oil and of natural gas remained artificially low because of strict government-enforced price control. During this period, oil remained at about $3/barrel and natural gas at about 10 cents per MCF while the CPI tripled during the same period. During the '70's and '80's the rate of inflation, interest rates, prices of oil and natural gas, average daily count of active drilling rigs followed a similar curve. This curve is typified by a rapid increase beginning in about 1978 and to reach a maximum in 1981, a rapid decline for a period of one year, then a more gradual decrease from '82-'85. (See Fig. 22.)

No discussion of the petroleum industry can ignore the effects of imported petroleum and petroleum products, but to open this "can of worms" invites a great deal of heat and little light.

The US and Canada have 12% of the currently proved reserves of oil; the USSR and the eastern bloc, 10%; and the Middle East, 55%. (See Fig. 23.) Proven natural gas reserves are distributed among these three areas as follows: US and Canada, 12%; USSR and eastern bloc, 30%; Middle East, 25%. (See Fig. 24.) These reserve figures are always moving as a result of continuing drilling activity. For example, during the past thirty years the ratio of US oil reserves (barrels) to rate of production (barrels per year) has never exceeded thirteen years. This ratio in 1984 was 9 years (and it was 11 years for natural gas).

Demand for crude oil and natural gas liquids (NGL) in the US between 1970 and 1985 has ranged from 15 million barrels per day (15 MMBPD) in 1970, increasing to just over 19 MMBPD in 1978, declining to just under 16 MMBPD in 1983, and increasing again to 16.4 MMBPD in 1984. (See Fig. 25.) Imported oil and NGL have supplied 23% of demand in 1970, 36% in 1973, 47% in 1977, 30% in 1983, and 31% in 1984. Of our 1973 imports, 48% came from OPEC, and 21% from Canada; in 1978, 69% of our imports came from OPEC, 5.6% from Canada, and 3.8% from Mexico; and by 1983, OPEC accounted for only 37% of the imports, Canada, 10.9%, Mexico 16.5%, and the UK, 7.6%. (See Fig. 26.) Fig. 27 shows that Mexico and Canada continue to be our biggest suppliers of imported oil.

It was our heavy reliance on imports from OPEC that made us vulnerable to OPEC's Oil Embargo of October, 1973, and their price increase to $12 per barrel. Note in Fig. 28 the surge of energy imports as a percent of GNP in 1973 and 1974, and again in 1979 through 1981. The success of the Iranian Revolution in early 1979 sparked panic buying, and the price of OPEC oil jumped from $13 to more than

$26 per barrel. By 1981, the official price peaked at $35 per barrel. During this period, the price of domestic oil remained below that of imported oil. (Refer back to Fig. 21.)

Since we cannot produce sufficient oil and gas in the US to meet our demand, we must import some portion of that which we use. In addition to the price of the petroleum, there are additional costs of these imports that are more subtle. We maintain military forces around the world to protect the sea lanes by which tankers bring oil to our refineries. One estimate of the cost of a specific Persian Gulf mission for FY 85 is $47 billion. (Estimate by E. C. Ravenal, former DOD official now at Georgetown U., quoted by G.H.M. Schuler of Georgetown U.)

In 1984, the US merchandise trade deficit was $123 billion, of which $64 billion was for energy imports, $56 billion of which was for crude oil. Our oil imports during the past ten years have cost $535 billion. Had the US imposed a WPT on imported oil at the same tax rate imposed on domestic oil, the US government would have collected about $64 billion between 1980 and the end of 1984.

If our demand increases at the predicted rate of 2% annually and if imports continue at 30% of demand, we shall have to increase domestic production of crude oil to 11.4 MMBD by 1994. This is an extra 2.5 MMBD over 1984 production. But, given the natural decline in production of existing wells, we shall need to have developed the capacity to produce 8 MMBD of newly discovered oil. (Today's wells that produce 9 MMBD of crude oil are expected to produce 3.5 MMBD in 1994.) Even if demand remains constant, we shall need 6 MMBD of newly discovered oil. (Petroleum Independent, August, 1985).

Of course, we can shut down our domestic exploration and place our future in the hands of the OPEC oil ministers and of our neighbors to the North and South. I need not remind you that Mexico is on the brink of economic and political disaster, or that both Canada and Mexico have in the past acted to reduce oil supplies to the US, to our detriment.

We recognize that petroleum resources are finite and we must take action now to bring into being alternative sources of energy such as nuclear fusion and the sun. We must also recognize that for the foreseeable future petroleum and petroleum products will provide most of America's energy requirements.

Unless we wish to place our national security in the hands of unreliable neighbors and fair-weather friends, I submit that we should act so as to strengthen, rather than weaken the domestic petroleum industry. This industry is not perfect as can be seen from the intrafamily disputes described in our daily newspapers, but to cripple it under the guise of tax reform would surely cost more than reformers can "save" by closing the "oil industry loopholes".

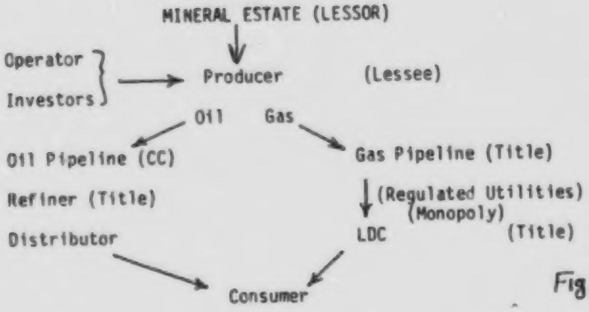

MINERAL ESTATE (LESSOR)
Operator
Investors
Producer
(Lessee)
Oil
Gas
Oil Pipeline (CC)
Refiner (Title)
Distributor
Gas Pipeline (Title)
(Regulated Utilities)
(Monopoly)
LDC
(Title)
Consumer

Fig. 1

OIL AND GAS LEASE
TYPICAL
MINERAL OWNER (LESSOR) --> OPERATOR (LESSEE)

Bonus	$50 - 500 per acre
Term	1 - 5 years*
Royalty	1/8 - 1/4

*extended for life of production
lease may specify depths, formations

Fig. 2

Figure 1. Number of Gas, Oil, and Dry Wells Drilled in the Lower-48 States and Offshore by Well Type and Completion Year

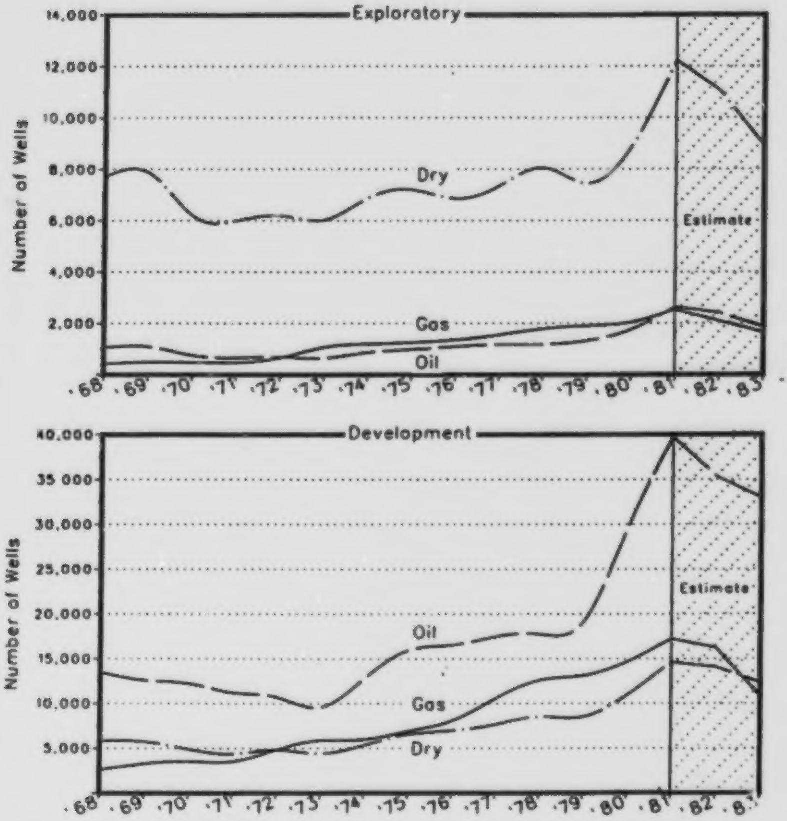


Figure 2. Oil, Gas, and Dry Shares of Drilling in the Lower-48 States and Offshore by Well Type and Completion Year

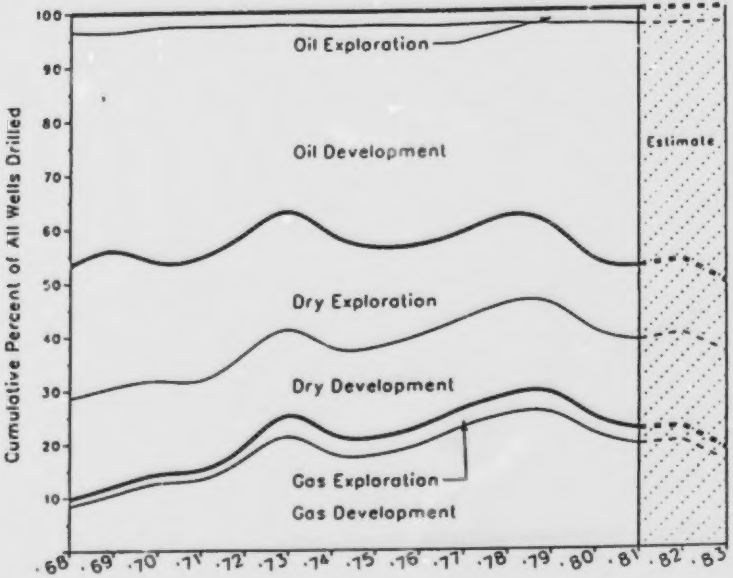


Fig. 4

TYPICAL WELL COST
COTTON VALLEY GAS UNIT
640 Ac, 11,000 FT

Leasehold	85,000
Drill Site	15,000
Drilling, Tests (DH)	600,000
Completion	200,000
Stimulation	200,000
TOTAL	1,100,000

Fig. 5

PAYOUT CALCULATIONS 1955, 1985

	1955	1985
depth (ft)	7,000	11,000
cost ($)	50,000	1,100,000
production (MCF/D)	5,000	700
price ($/MCF)	0.10	2.85
NRI	.875	0.70
WI revenue ($/D)	437	1,400
Payout (D)	115 (4 mo.)	786 (26 mo.)

Fig. 6

- RAPID INITIAL PRODUCTION DECLINE
- LONG PRODUCTION LIFE

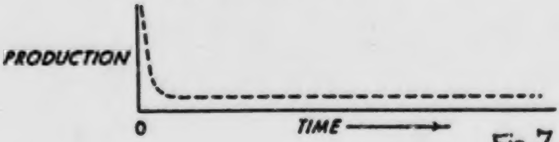


Fig. 7

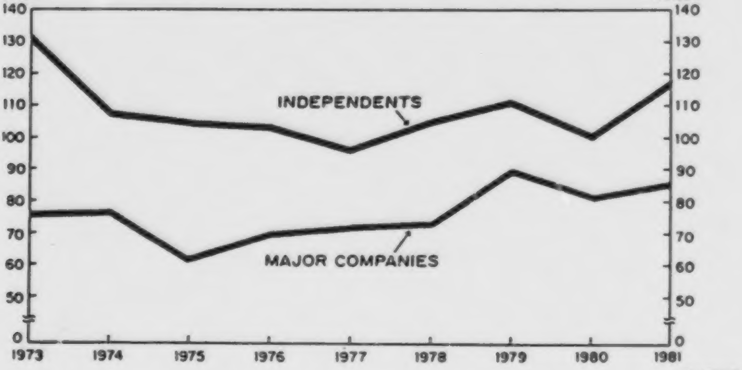
DEPLETION ALLOWANCE (1984)

IRS CODE SEC 613

22%	S, U, 42 MINERALS AND ORES
15%	Au, Ag, Cu, $Fe(O)_x$ OIL, GAS
14%	ALL OTHERS, GRANITE, CO_2, ETC.
10%	COAL, NaCl, ASBESTOS
7.5%	CLAYS, SHALE, SLATE
5%	GRAVEL, PEAT, SAND, Br_2, $CaCl_2$

Fig. 8

Expenditures as Percent of Wellhead Revenues



IPAA CHART

Fig. 9

CHART I
Rate of return
U.S. oil companies vs. all manufacturing companies

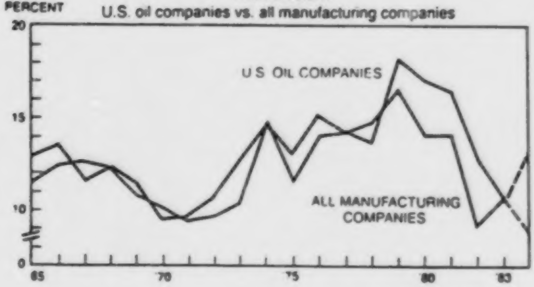


Fig. 10

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TABLE III

Type of oil	General rates	Independent producer rates
Tier 1— All nonexempt domestic oil except Tier 2 and Tier 3 oil	70%	50%*
Tier 2— Stripper oil and oil produced from a National Petroleum Reserve	60%	30%*
Tier 3— Newly discovered oil, heavy oil and incremental tertiary oil	30%	30%

*First 1,000 barrels per day

Fig. 11

TABLE I

Gross windfall profits tax revenue

Fiscal Year	Forecast	Actual
	(millions—$)	
1980	5,159	3,052
1981	20,955	16,931
1982	32,293	22,036
1983	35,124	15,660
Total	119,645	57,679

Source: Joint Committee on Taxation; Internal Revenue Service

Fig. 12

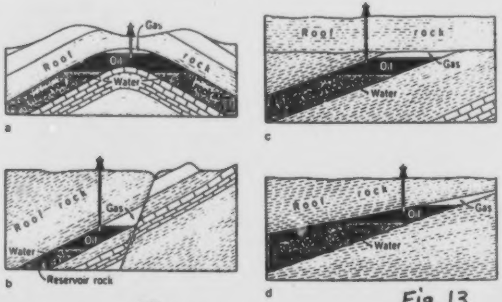

Gas
Roof
rock
Oil
Water
a
Roof
rock
Oil
Gas
Water
c
Roof
rock
Gas
Oil
Water
Reservoir rock
b
Roof
rock
Oil
Gas
Water
d

Fig. 13

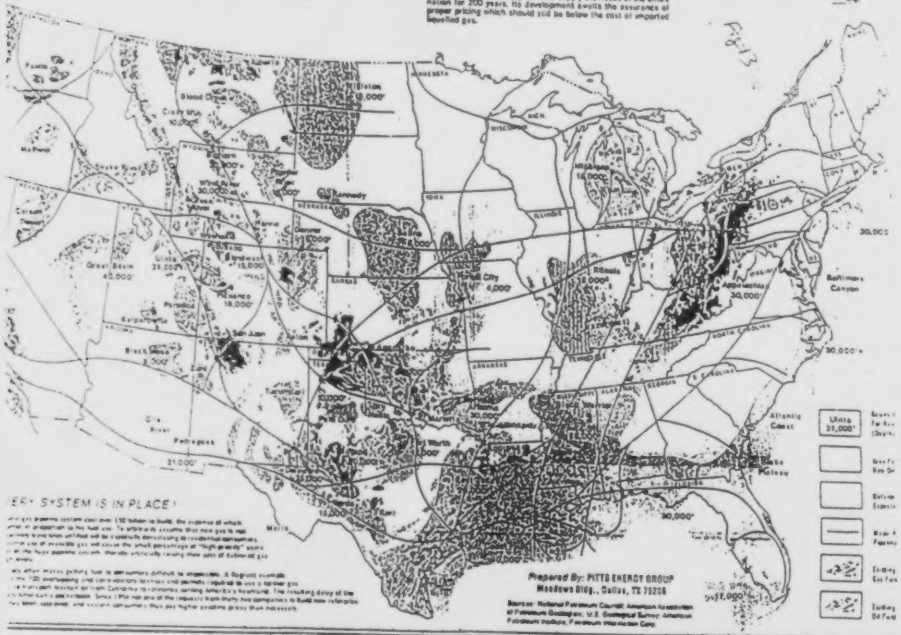
[illegible] product prices. Unrequested [illegible] believes old [illegible] may yield [illegible] as much as has already been used [illegible]

low oil prices have prevented expenditures to increase yields. Experts say two thirds of all the oil ever discovered in America is still in the ground, largely because of low price controls. Only one half of that remaining oil is an amount equal to all the oil our nation has used in its entire history. Politicians who claim our oil and gas is exhausted are misinformed.

4. SPECIAL CATEGORY AREAS, such as the Texas Gulf Coast where 105,000 trillion cubic feet of gas has been calculated to exist in high-pressure, hot salt water at 8,000 to 25,000 feet. If U.S. gas consumption were more than doubled to 50 tcf/year, only 10% of this special gas would supply the needs of the entire nation for 200 years. Its development awaits the assurance of proper pricing which should still be below the cost of imported liquefied gas.

expenditures for foreign oil and gas and spend in developing new energy sources. The least expensive that is to spend the money to accelerate develop own vast oil and gas supplies and use them while a alternatives are developed.

Fig 13


Williston 16,000'
Blood Creek
Crazy Mtn. 10,000'
Big Horn
Powder River
Wind River 30,000'
Kennedy
Denver 13,000'
Great Basin 40,000'
Uinta 28,000'
Paradox 18,000'
Piceance
San Juan
Black Mesa
Forest City 4,000'
Illinois 15,000'
Michigan 15,000'
Appalachian 30,000'
Baltimore Canyon
30,000'
Atlantic Coast
Blake Plateau
Fort Worth
Pedregosa
21,000'
Uinta 28,000'
FIG 14

…ERY SYSTEM IS IN PLACE!

[illegible] gas pipeline system cost over 130 billion to build, the expense of which [illegible] in proportion to the fuel use. To arbitrarily assume that new gas is not [illegible] will be a [illegible] to residential consumers. [illegible] gas will cause the small percentage of "high priority" users [illegible] of the huge pipeline system, thereby artificially raising their cost of delivered gas [illegible]

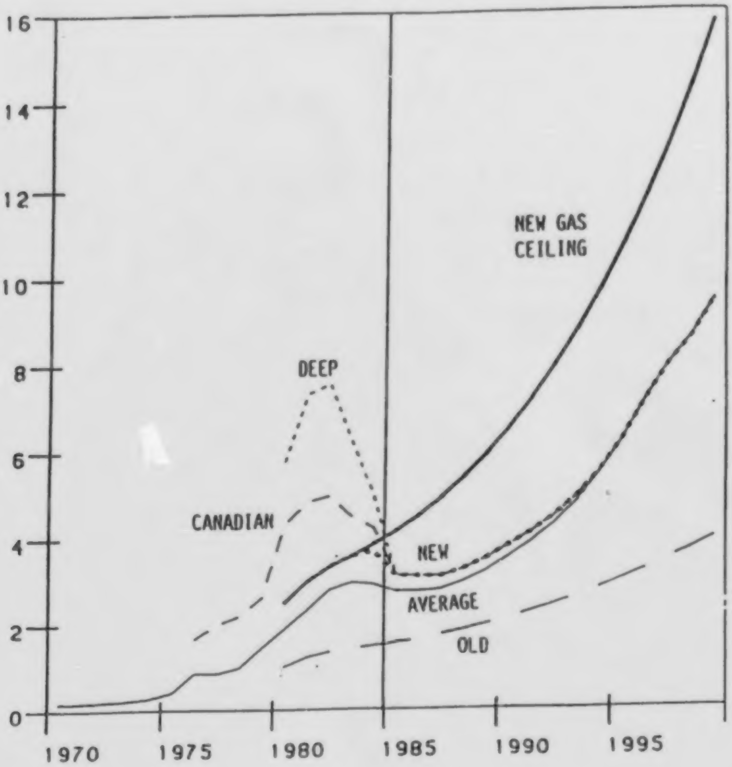
[illegible] often makes getting fuel to consumers difficult to impossible. A flagrant example [illegible] the 700 overlapping and contradictory agencies and permits required to use a former gas [illegible] to transport Alaskan oil from California to refineries serving America's heartland. The resulting delay of the [illegible] American a [illegible]. Since 1956 not one of the requests from thirty-two companies to build new refineries has been approved, and eastern consumers thus pay higher gasoline prices than necessary.

Prepared By: PITTS ENERGY GROUP
Meadows Bldg., Dallas, TX 75206

Sources: National Petroleum Council; American Association of Petroleum Geologists; U.S. Geological Survey; American Petroleum Institute; Petroleum Information Corp.

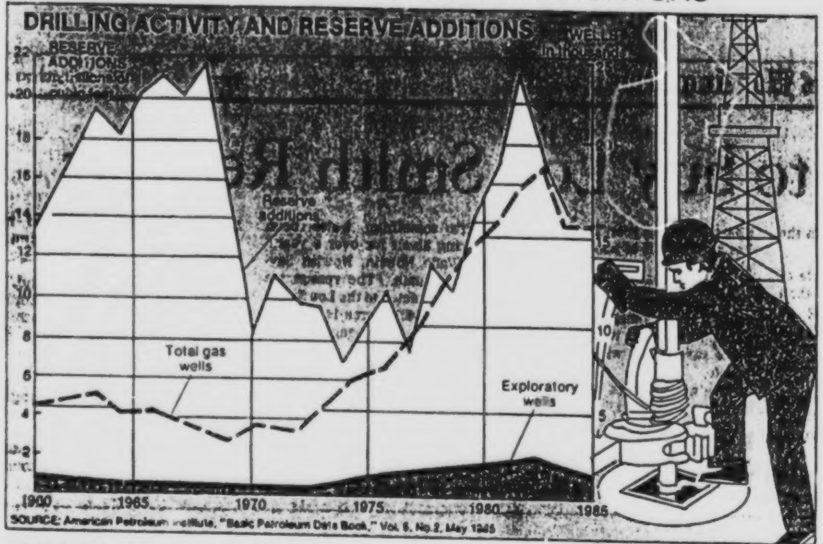
Fis 14

VARIOUS WELLHEAD AND
BORDER NATURAL GAS PRICES
(DOLLARS PER MCF)



THE DALLAS MORNING NEWS INDICATORS

DRILLING ACTIVITY AND RESERVE ADDITIONS



SOURCE: American Petroleum Institute, "Basic Petroleum Data Book," Vol. 5, No. 2, May 1985

The Dallas Morning News: Jan Brunson

ENERGY AT A GLANCE

Fis16

NATURAL GAS PRICE, TAKE
WILLOW SPRINGS FIELD

Well	$/MCF 1984	$/MCF 1985	MCF 7/85	$/Month
Flewellen #2	0.30	0.31	534	165
Flewellen #3	2.37	2.38	3639	8,660
Flewellen #4	2.40	2.45	776	1,901
McGrede #2	2.21	2.28	780	1,778
Castleberry #1	-0-	-0-	481	-0-
Castleberry #3	2.39	2.41	1011	2,436
Castleberry #4	2.24	2.24	884	1,980
Culpepper #1	.32	.33	534	176
Culpepper #2	.75	.79	534	422
Culpepper #3	2.39	2.40	2971	7,130
Culpepper #4	2.39	2.40	2745	6,588
Denson #1	2.46	2.47	1457	3,599
Driggers #1	.30	.31	864	268
Driggers #2	.30	.31	326	P/A
Bussey #1	4.37	2.89	759	2,934
Bruton #1	4.48	2.97	-	-
Keasler #1	6.55	2.84	615	1,747

Fig. 17

NATURAL GAS PRICE
BROOKLYN UNION GAS CO.
JUNE, 1984

	$/MCF
Wellhead	3.20
City Gate	4.50
Burner Tip	8.50

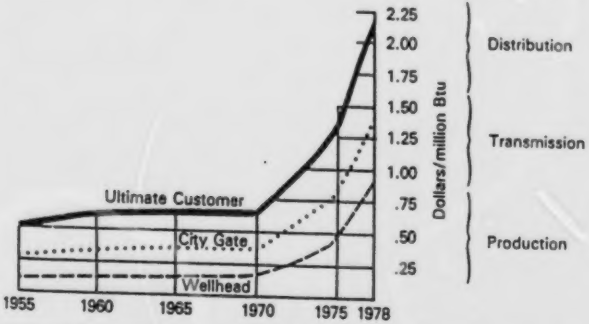
Fig. 18

NATURAL GAS PRICES

	A(100%)	B(50%)	C(85%)
WH	2.71	2.71	2.21 (-19%)
T&D	2.82	5.64	3.32
BT	5.53	8.35	5.53

Fig. 19

Figure 5-1. Component Costs of End-Use Natural Gas Prices.



Source: American Gas Association.

Fig. 20

NATURAL GAS PRODUCTION AND AVERAGE WELLHEAD PRICE, 1936-1982

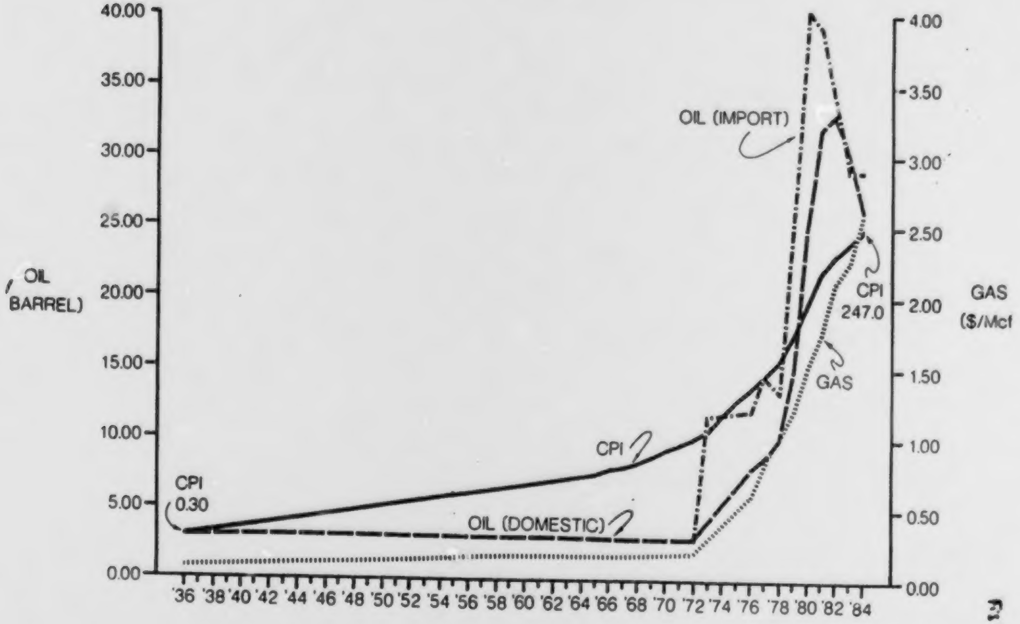
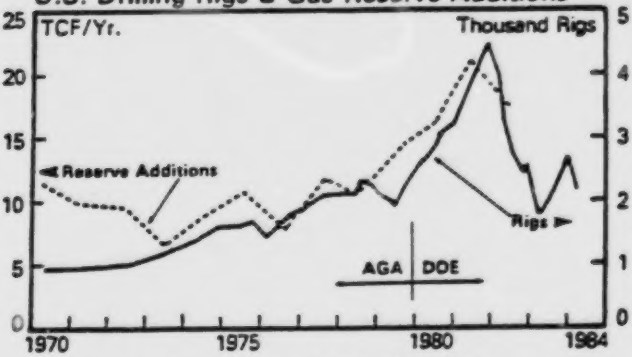


Fig 21

Fig21

838

U.S. Drilling Rigs & Gas Reserve Additions



Source: Natural Gas Supply Association, government publications, AGA and DOE.

Fig. 22

WORLD CRUDE OIL RESERVES
(Billion Barrels)

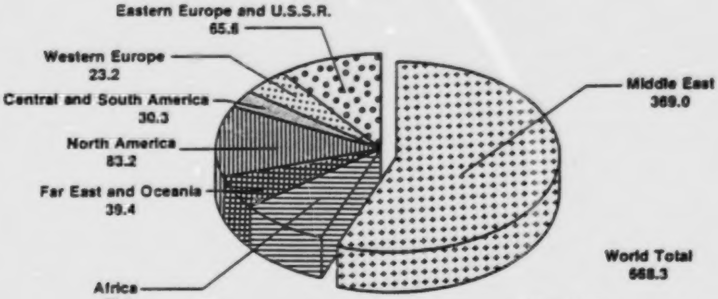


Fig. 23

WORLD NATURAL GAS RESERVES
(Trillion Cubic Feet)

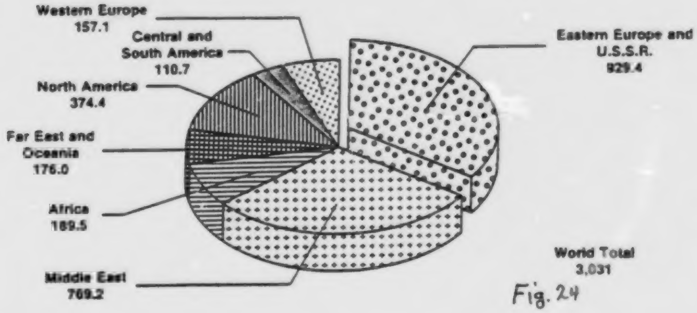


Fig. 24

24-Sep-85

U.S. PETROLEUM STATISTICS 1970-1984
CRUDE OIL AND NATURAL GAS LIQUIDS

YEAR	DEMAND MBD	SUPPLY MBD	DOMESTIC PROD. MBD	IMPORT MBD	IMPORT % DEMAND
1970	14,956	15,071	11,297	3,419	22.86
1971	15,437	15,520	11,157	3,925	25.43
1972	16,589	16,370	11,185	4,741	28.58
1973	17,539	17,687	10,946	6,256	35.67
1974	16,873	17,065	10,462	6,112	36.22
1975	16,531	16,577	10,007	6,056	35.89
1976	17,684	17,640	9,736	7,313	41.35
1977	18,674	19,218	9,863	8,787	47.05
1978	19,209	18,969	10,274	8,202	42.70
1979	18,987	19,084	10,135	8,389	44.18
1980	17,600	17,709	10,170	6,865	39.01
1981	16,653	16,540	10,181	5,740	34.47
1982	16,111	15,676	10,199	4,948	30.71
1983	15,970	15,801	10,274	4,817	30.16
1984	16,425	16,514	10,394	5,134	31.26
TOTAL	255,238	255,441	156,280	90,704	35.04

DATA FROM PETROLEUM INDEPENDENT, APR. 1985, P 21

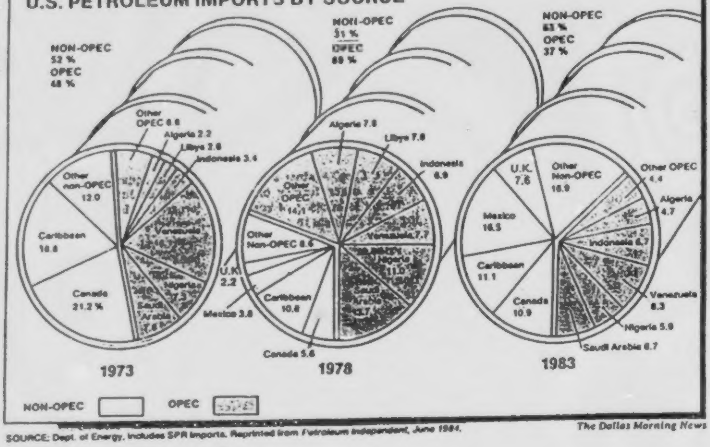
Fig. 25

FIG 26.

2 D The Dallas Morning News Wednesday, July 18, 1984

THE DALLAS MORNING NEWS INDICATORS

U.S. PETROLEUM IMPORTS BY SOURCE



SOURCE: Dept. of Energy. Includes SPR imports. Reprinted from *Petroleum Independent*, June 1984.

The Dallas Morning News

ENERGY AT A GLANCE

RIGS AND DRILLING

		Crnt Period	Prev. Period	Year Ago
Rotary rigs running — U.S.	July 9	2,374	2,367	2,016
Rotary rigs running on land	July 9	2,172	2,173	1,833
Rotary rigs running off shore	July 9	202	194	184
Rotary rigs running — Texas	July 9	824	848	674
Rotary rigs running — Texas off shore	July 9	68	67	46
Rotary rigs running — Oklahoma	July 9	318	312	262
Wells drilled — oil, gas and dry	May	5,929	5,673	6,756
Wells drilled on land	May	5,808	5,570	6,667
Wells drilled off shore	May	121	103	81
[illegible] — Texas	May	2,007	1,904	1,844
[illegible]	May	8	20	28
[illegible]	May	604	678	900

D[illegible] INDICATORS

[illegible]	[illegible]	8,733	8,622	8,622
[illegible]	[illegible]	[illegible]	2,528	2,525
[illegible]	[illegible]	[illegible]	1,337	1,453
[illegible]	[illegible]	[illegible]	[illegible]	113,414
[illegible]	[illegible]	[illegible]	[illegible]	16,854
[illegible]	Jun	560	450	471
[illegible]	Jun	455	444	428
[illegible]	Jun	45	46	43
[illegible] — Texas	Jun	2,528	2,989	2,479
Leases [illegible] (total) — California, [illegible] Oklahoma and Texas	May	6,064	5,403	4,853
Footage drilled — U.S.	May	26,417	26,233	28,544
Footage drilled — Texas	May	10,366	10,223	9,079

UTILITIES

		Crnt Period	Prev. Period	Year Ago
Elect. sales — Tex. commercial (millions of kwh)	Feb.	3,716	4,107	3,341
Elect. sales — Tex. industrial (millions of kwh)	Feb.	6,737	6,621	6,402
Elect. sales — Tex. residential (millions of kwh)	Feb.	5,209	6,733	4,548
Elect. sales — Texas total (millions of kwh)	Feb.	16,050	17,887	14,666
Fuel cons. by elect. utilities (quadrillion)	Mar.	2.14	2.05	1.95
Coal deliveries to Texas utilities (thousands of tons)	Mar.	5,571	5,206	4,298
Gas deliveries to Texas utilities (mcf)	Dec.	94,409	87,505	76,385
Oil deliveries to Texas utilities (thousands of bbls.)	Feb.	210	669	47
Average coal stocks — utilities	Nov.	158,277	160,068	176,308
Spot purchases of coal (thousands of tons)	Dec.	6,788	7,143	4,259
Contract purch[illegible] of tons)	Dec.	40,937	43,793	45,479
Elect. gen. from gas — Texas (millions of kwh)	Mar.	8,652	7,463	8,688
Elect. gen. from oil — Texas (millions of kwh)	Mar.	6	33	17
Elect. gen. from hydro — Texas (millions of kwh)	Mar.	156	72	111
Elect. gen. from [illegible] — Texas [illegible]	Mar.	7,554	7,820	6,026

CO[illegible]

Consu[illegible]	Ma[illegible]	6.[illegible]	6.17	5.92
Con[illegible]	[illegible]	2.41	2.71	1.93
Con[illegible] res[illegible]	Ma[illegible]	2.56	2.43	2.52
Vehicle miles [illegible] — U.S. (billions)	Apr.	142.1	137.9	132.9
Vehicle miles [illegible] — Texas (billions)	Apr.	11.4	11.6	10.6
Sales of auto fuel — U.S. (billions of gallons)	Mar.	7.7	7.0	7.0
Sales of auto fuel — Texas (millions of gallons)	Mar.	734.8	668.2	752.2
Stocks of auto fuel (thousands of bbls.)	July 6	248,862	250,639	249,564
Imports of crude oil (thousands of bbls. daily)	July 6	3,336	3,711	3,554

Compiled from Data Resources Inc.

Fig 26

DAILY
OIL IMPORTS
(THOUSANDS OF BARRELS)

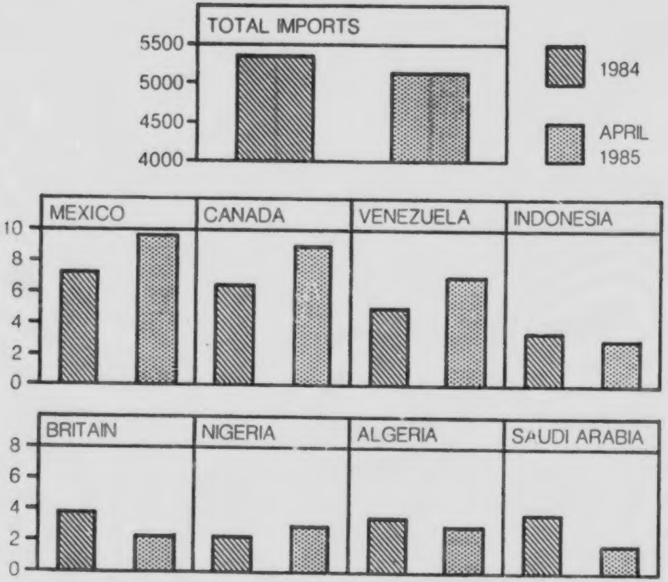


Fig 27

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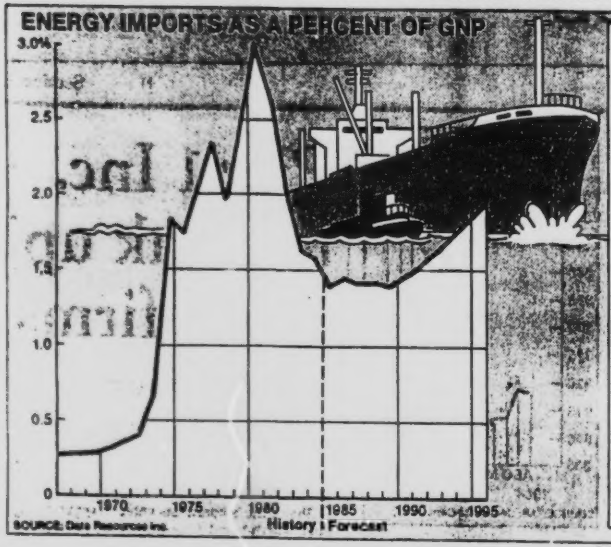
2 D The Dallas Morning News Wednesday, September 4, 1985

THE DALLAS MORNING NEWS INDICATORS

ENERGY IMPORTS AS A PERCENT OF GNP



SOURCE: Data Resources Inc.

The price of imported crude is expected to fall gradually to $26.07 per barrel in 1987, increasing by an average of 6.8 percent annually thereafter. By 1995, the price per barrel is thus projected to reach $44.25.

Assuming no oil embargoes or other major disruptions, the real price of oil is projected to remain more than 38 percent below its 1980 peak through 1995.

The outlook for domestic oil production suggests that fuel imports (including natural gas liquids measured in barrel equivalents) will grow steadily through 1995. As a result, the proportion of gross national product going to pay for imported oil is projected to eventually increase again, following a pronounced drop in recent years.

The Dallas Morning News

Fig 28

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OIL AND GAS HIGHLIGHTS SINCE 1936

1936	Oil $3.00/B, gas $0.08/MCF, CPI 30
1955	Oil $3.00/B, gas $0.12/MCF, CPI 50
1960	Formation of OPEC, oil $3.00/B, gas $0.15/MCF, CPI 60
1973	10-6-83 OPEC oil $2.80/B, gas $0.18/MCF, domestic oil $3.00, CPI 100 10-16-83 OPEC oil --> $5-6, year end OPEC oil $11.65/B, gas lines
1976	Carter elected, CPI 120, gas $0.60/MCF, domestic oil $8/B, OPEC oil $12/B
12/1977	Imported oil $14.61/B, domestic $8.77/B, gas $0.84/MCF
1978	Fuel Use Act, NGPA, Iranian Revolution, OPEC oil $13.34, US $10, gas $1.00
1979	Success for Islamic Revolution in Iran, OPEC oil $26/B, US $15, gas $1.20, begin phase out of gas price control; Iranian hostage crises, gas lines
1980	3/80 - WPT inacted; 9/80 Iraq invades Iran; 11/80 OPEC spot price oil $40, US oil $25, gas $1.50, Reagan elected, CPI 190
1981	All US oil decontrolled 1-1-81; 2-81 peak imported crude $39, 8-81 prime interest 20.5% peak, Jan., Reagan inaugurated, hostages released, US oil $32, gas $1.75. 10-81 seismic count begins to fall, recession begins, gas surplus begins.
1982	Drilling bust, costs decline, ERTA, (phase down of Tier 3 WPT rate, lower personal income tax rate, ACRS), 2/82 OPEC quotas, 3/82 deep gas prices peak; 11/82 rig count increases, end recession; US oil $33, gas $2.10, CPI 231
1983	1/83 Independent stripper oil exempt from WPT, OPEC cuts price from $34->$29, 3/83 prime -> 10.5%; US oil $30, gas $2.25
1984	May-July - spot oil price drop; prime peaks @ 13%. Any imported oil $29, domestic $26, gas $2.60. Reagan re-elected.
1985	1-85 OPEC oil $29->$28.

August 21, 1985

Ref: D/28

Mr. **Sharp.** Thank you very much, Dr. Cargill.

We are now happy to welcome Mr. Deas.

STATEMENT OF RUTLEDGE DEAS

Mr. **Deas.** Thank you, Mr. Chairman, and members of the committee.

My name is Rutledge Deas. I am an independent oil and gas producer from Lafayette, LA, having been in the oil exploration business for 35 years. I presently serve as the chairman of the Louisiana Association of Independent Producers and Royalty Owners, called LAIPRO, and as their chairman of the Federal Tax Committee.

I am accompanied today by Mr. Henry Goodrich, president of Goodrich Oil Co., an independent oil and gas company located in Shreveport, LA.

We are appearing here today on behalf of 1,500 members of LAIPRO, a statewide organization representing the views of the independent oil and gas industry in the State of Louisiana. We are also speaking on behalf of the Louisiana Association of Business and Industry, LABI, the State's largest business association, representing more than 4,500 member companies.

We appreciate the interest this committee is showing on this important issue, since any tax reform which affects the oil and gas industry must tie in with a total U.S. national energy policy. We ask that our full statement be made part of today's record.

Mr. **Sharp.** Without objection, so ordered.

Mr. **Deas.** Our intent today is to impress on the members of this subcommittee and other Members of Congress the serious effects that the proposed Federal tax legislation will have on the Nation's security and economy, the economy of Louisiana, and other producing States, by its impact on the independent oil and gas producer in this country.

Gentlemen, this is not a parochial problem. It has immense national concern.

The specific provisions which I refer to are the depletion allowance, the expensing of intangible drilling costs, and the investment tax credit.

Let me state clearly at the outset, the U.S. Treasury Department's Treasury I proposal was bad, and this industry could not have survived under the provisions included in that document. Many of those provisions were eliminated, changed, and amended with the introduction of Treasury II; however, the current Ways and Means Committee Staff I or Rosty I is worse and more devastating than either of the first two.

The independent oil and gas producer plays a major role in finding this country's oil and gas reserves. The 200 largest companies drilled 41 percent of the wells, while the 8,200 smaller countries, the independents, drilled 59 percent of the wells. The same independents drilled 71 percent of the exploration wells, and yet still accounted for over half of the developmental wells.

The reason for this statistical anomaly is that the smaller countries are in the oil and gas producing business only. Over 100 percent of the independents' revenues are plowed back into drilling and production. The industry is directly related to its cash flow, which is the result of price and taxation policies. Price is set in the world market, but taxation policy is set in Washington.

So it is a national imperative that tax policy not further erode an industry struggling to cope with a declining world price.

The situation in Louisiana is that our State produces over 15 percent of this country's crude oil, and the independents own 60 percent of those reserves. In addition, Louisiana produces 31 percent of the country's natural gas, and the independents hold one-half of those reserves.

I make that statement so that you will understand that we are a significant factor today. The perception obviously still exists that the oil industry does not pay its fair share of taxes, when, in fact, no other industry in America can match the petroleum industry's tax payments to Government at every level.

According to the U.S. Joint Committee on Taxation, the oil industry ranks as the No. 1 taxpayer, with an effective rate of 43 percent, including the windfall profit tax. The committee stated that although the industry accounted for only 21 percent of the total U.S. income of all of the companies studied, it paid 27 percent of the total taxes.

Any tax provision affecting the energy industry must have the primary objective of increasing domestic energy production, not increasing Federal taxation. To increase production, you have to encourage development of discovered, but yet undeveloped, reserves; stimulate investment in exploration drilling, in order to discover new reserves; allow sufficient internal cash-flow for maintaining operations and searching for new reserves; and attract outside investment capital to share the risk in drilling expensive, high-risk wells.

A free enterprise system recognizes and rewards the risks and successes of private enterprise. Energy tax provisions, if we are to attract participants into the search for oil and natural gas, must not penalize those who have accepted the challenge.

We ask this question: Have you not enhanced increased capital by the discovery of oil and gas, and should not this be recognized by the Tax Code? We think so.

Specifically, the depletion allowance is obviously important to the independent sector of our industry. That elimination will result in a reduction in the number of oil and gas wells drilled by the domestic producer; consequently, a reduction in the nation's energy reserves and even more bankruptcies and bank failures. Percentage depletion is the independent oil and gas industry's capital recovery mechanism.

There is talk of replacing it with cost depletion. This is not a replacement; it is an elimination. Cost depletion is using the ratio of the number of barrels of oil produced to the number of barrels of oil originally in the ground. This is the slowest capital recovery method currently available, and the real costs of invested capital are thus under-recovered.

By contrast, investors and manufacturing plants and equipment are able to recoup their investment within 5 years after operations begin. Percentage depletion is an effective cost replacement and cost recovery, designed and adopted by Congress to encourage oil and gas exploration and production by recognizing the inherent high risk and cost involved. Congress would be making a mistake to eliminate it.

Intangible drilling costs are badly understood. All businesses are allowed to deduct their expenses. Newsprint for newspapers is a nonrecoverable item and is expensed. Drilling mud, et cetera, is nonrecoverable and therefore expensed. Intangible drilling cost is a fancy phrase for expenses never recovered. The only ones who realize any benefits from the deduction of intangible dealing costs are those who actually drill the wells. The current tax law allows immediate write-offs of IDC's, which directs investment into exploration ventures. Any delay in recovery of these costs would reduce the independents' cash-flow, potential return on investment, and therefore the attractiveness of drilling.

As I understand it, in Rosty I, IDC's could be expensed as incurred under present law; however, it would be recaptured and included in income at the time the well commences production. That concept is absolutely devastating to our industry. It is unreasonable and unthinkable.

Let me touch on the investment tax credit and its overview. The investment tax credit is critical to all capital investment to keep America competitive in a competitive world.

LAIPRO was not the organization to study the impact of the proposed tax changes on the energy industry. In a report prepared for Energy Committee Chairman, Mr. John Dingell, the Energy Information Administration also looked at the impacts. Looking at independent producers, the EIA made some comments, beginning at page 2.23 of its report. I would like to repeat them here, because they are important to the members of LAIPRO.

It is noted there was a significant difference in tax impact between large and small independents. The EIA reported, the smallest group which receives the most benefit from percentage depletion would face higher taxes because of the change. Companies in this group would face tax liabilities about 21 percent higher than under current law, and a potential reduction in cash-flow of about 5 percent.

The loss of percentage depletion has a much more severe impact on the smaller oil and gas producer than on the other producers. The EIA went on to say that the average cash-flow impact would differ between independents, based on the size of the companies, and the large independents would not have long-term cash-flow problems. But EIA added, and I quote: "For the smallest group, however, the adverse cash-flow effects would persist over the projected 15-year period, though to a lessening degree."

This is little comfort to small oil and gas operators who just probably will make it through the first few years after a tax system that increases their tax burden by as much as 21 percent, and on top of that, decreases their cash-flow.

If it is the desire of the oil and gas industry to constrict to a few large independents and the majors, believe me, the proposed tax reform will accomplish that end.

Thank you, Mr. Chairman, and we will be happy to respond to any questions you may have.

[Testimony resumes on p. 888.]

[The prepared statement and attachment of Mr. Deas follows:]

STATEMENT ON

The Effects of Federal Tax Legislation on Louisiana Independent Oil & Gas Industry

Before the

United States House of Representatives

Energy and Commerce Committee
Subcommittee on Fossil and Synthetic Fuels

Thursday, November 7, 1985

LOUISIANA ASSOCIATION OF INDEPENDENT
PRODUCERS & ROYALTY OWNERS
Baton Rouge, Louisiana

LAIPRO

Thank you Mr. Chairman.

Mr. Chairman, Members of the Committee, my name is Rutledge Deas, I am an Independent Oil and Gas Producer from Lafayette, Louisiana and presently serve as Chairman of the The Louisiana Association of Independent Producers and Royalty Owners' (LAIPRO) Federal Tax Committee. I am accompanied today by Mr. Henry Goodrich, President of Goodrich Oil Company, an independent oil and gas company located in Shreveport, Louisiana. We are appearing here today on behalf of the 1,500 members of LAIPRO - a statewide organization representing the views of the independent oil and gas industry in the State of Louisiana. We are also speaking on behalf of the Louisiana Association of Business and Industry (LABI), the State's largest organization which serves as the Chamber and manufacturers association representing more than 4,500 member companies. We ask that this statement be made a part of today's hearing on the Tax Reform Proposals now pending the House of Representatives Ways and Means Committee of the United States Congress.

The data we present to you has been compiled through the assistance of data collected from several Louisiana trade associations, Louisiana State University's Center for Energy Studies, the Louisiana Department of Natural Resources, the Louisiana Office of Conservation, the Joint Committee on Taxation, the U.S. Bureau of the Census and the U. S. Department of Energy.

The purpose of our statement is to adequately describe the role of the Louisiana Independent Operator, his relationship to the oil and gas industry in Louisiana, and to postulate the effect of Federal tax legislation on his operations, on the economy of various regions of the U.S., and the total effect on the U. S. and its workforce. This will be done from the viewpoint of that industry which finds and produces our indigenous oil and gas and the national security considerations of that national asset.

We will project the long term outlook for oil and gas in the State of Louisiana and give our opinion of the market prices forthcoming in the next five years.

The percentage depletion allowance will be discussed as well as intangible drilling costs and the investment tax credit. This will be done in light of historic tax policy as well as the resultant investment incentives. The detrimental treatment of royalty owners will be shown.

The Role of the Independent Operator

According to the Bureau of Census there were 8,408 operating companies in the oil and gas industry with production in 1982. The Bureau published statistics describing this industry in two publications: (1) 1982 Census of Mineral Industries, Crude Petroleum and Natural Gas, Industry 1311 (MIC82-1-13A), and (2) Current Industrial Reports, Annual Survey of Oil and Gas, 1982, MA-13K (82sO-1).

Table I shows selected statistics on oil and gas operating companies ranked by lease revenues for the year 1982. A cursory examination of the statistics reveals that the top 200 companies control the vast majority of the resources in the oil and gas industry. They received 89% of the lease revenues, own 91% of the oil and gas field properties and charged 86% of the depletion depreciation and amortization cost in the industry against revenues in 1982. The average large company is massive when compared to the smaller companies.

In 1982, the two hundred largest companies had average oil and gas (lease) revenues of $455 million, average book value of oil and gas properties of $1 billion, and average depletion, depreciation and amortization costs of $76 million. The 8,208 smaller companies, on the other hand, had average oil and gas revenues of $1.4 million, average book value of $2.56 million, and average depletion, depreciation and amortization costs of $291 thousand.

The small marginal producers, however, play a much larger role in the oil and gas industry than these statistics imply. In 1982, according to the 8,408 respondents to MA-13K(82)-1, these companies drilled 46,329 wells. The top 200 oil and gas operators drilled 41% of this total while the 8,208 smaller companies drilled 59%. Details of drilling activity in 1982 are shown in Table II for the top 200 companies and the smaller 8,208 companies. The smaller companies drilled more wells than the top 200 companies in all categories except the development wells. This is not a fluke of shallow well versus deep well activity either. The average well of the larger companies was 6,900 feet, while that of the smaller companies was 4,800 feet. In terms of footage drilled, the smaller companies drilled more in three of six categories, mainly in exploration. Table III shows a summary of the drilling statistics found in Table II. The smaller companies clearly dominate in the exploration well category with 71% of the total wells drilled, but even in development they account for over half of the wells drilled.

The reason for the anomaly is that the smaller companies are in the oil and gas industry business only. Their revenues and resources are plowed right back into the industry. This is illustrated dramatically in Figure I which shows exploration, development, and production expenditure as a percentage of revenues for 1982. The smaller companies expended 110% of their 1982 revenues in the industry, while the large companies expended 87% of their 1982 revenues in the industry. For the smaller companies this is not unusual. Figure 2 shows their last five years experience with three of the five years showing expenditures exceeding revenues and this was during a period of generally rising oil prices.

The small companies cannot absorb a sudden shock to their cash flow, as currently being proposed, and continue to support half of the exploration and development of the oil and gas resource in the United States. They do not have the option of diversifying into retail chains or business machines - they will just slow down or terminate their participation in the drilling industry.

In cooperation with the LSU Center for Energy Studies, the Louisiana Association of Independent Producers and Royalty Owners (LAIPRO) conducted a survey of 404 independent producers in Louisiana to determine the effect of changes of tax treatment of intangible drilling costs and the depletion allowance.

The study showed there are three basic sources of funds for drilling expenditures to the industry - bank borrowing, oil and gas industry sources and non-industry sources. The largest of these three sources is the oil and gas industry sources (internally generated funds) with 69.6%. Bank borrowings representing 2.3% tend to be used to support development drilling while non-industry investor sources (28.1%) are used to support exploratory drilling activity. Fifty-seven percent (57%) of the respondents indicated that their line of credit at their bank will be reduced or significantly reduced if percentage depletion is eliminated. This will retard the development of existing reserves and ultimately erode the productive capacity of independents. Seventy percent (70%) of the respondents believe that non-industry investor participation in exploratory wells will be reduced by at least sixty percent (60%) if IDC's must be amortized and percentage depletion is eliminated. Non-industry investor participation in exploratory drilling is important since the smaller producers that need this participation have in the past drilled a large proportion of the exploratory wells in the United States.

It is estimated that the 400+ independents in the LAIPRO survey expended, in Louisiana, $1,216,387,658 drilling exploration wells and $555,677,089 on development wells in 1984 for a total of $1,772,064,747 on drilling in 1984. Historically, drilling efforts in Louisiana have resulted in a success rate of between 60 and 65%. Assuming a 60% success rate would mean that approximately $1,063,238,848 of the total expended in drilling resulted in completed wells. The independents surveyed indicated that 67% of completed well cost was classified as intangible drilling cost. Applying this percentage to the amount expended on completed wells results in total IDC's for the independents of $716,622,984. If these IDC's were not expensed, increased taxes at a rate of 33% would amount to $236,485,585. This is the amount by which self-generated funds for drilling would be reduced.

It is estimated that the average dry hole cost in 1984 to the independent was $379,504, while the completed well cost was $705,919. The average well cost in the weighted average, using the success rate, is $575,353 resulting from the following calculations:

Dry hole 40% * $379,504 = $151,802
Completion 60% * $705,919 = $423,551
Weighted Average..... $575,353

Using this weighted average well cost, it is estimated that the reduction in funds available would result in a reduction of 411 wells drilled by the independents. This is 24.4% of the estimated 1,685 wells drilled by Louisiana independents in 1984.

Investor Funds

It is estimated that non-industry investors contributed $398,517,046 in 1984 toward the drilling of exploratory and development wells. 76% of the independents surveyed indicated that without IDC expensing, investor participation would be reduced by 80% or more. If the investor contribution is reduced by 80%, there would have been $318,813,637 less available for drilling in 1984. Using the well cost derived above, this represents 554 wells, or 32.9% of the total 1,685 wells drilled.

The total effect is a reduction of 965 wells drilled or a 57.3% reduction in drilling effort.

Dollars, Production and Reserves

Dollars are the tool in the oil and gas industry and for each dollar removed by price decrease or taxation, reserves and production will decrease proportionately. Domestic production peaked in 1970 and low prices and inflation eroded production and reserve replacement until an upturn developed in 1976 resulting from a substantial price increase which overcame the inflation effect on production and finding costs and increased taxation by the reduction in the depletion allowance. However, this rather dramatically illustrates that production and reserve additions will respond to price. Reserves in Louisiana increased from 1979 to 1983 as a result of the increase in price.

In our effort to relate the oil and gas industry to the rest of our economy, it is important to know that end-use energy demand in the U.S. in the industrial sector for both liquid petroleum and natural gas is 74.5% of total energy. In the residential and commercial sector it is 65.9 %. Of course, transportation is an awesome 99.9%.

This exhibits without a doubt the critical need for a viable, healthy domestic oil and gas industry.

Of the above, the State of Louisiana produces **15.1%** of total oil production in the country and has **21%** of the reserves. Of that figure, independents produce **48%** of the **15.1%** and own an estimated **60%** of the remaining reserves.

The State produces **31%** of total gas production in the country and has **21.3%** of the total reserves. Independents produce **45.2%** of that amount and own an estimated **50%** of the gas reserves.

The gas produced in Louisiana is consumed within the State to the extent of 25%. The consumption is primarily by the petro-chemical complex, which in turn supplies industrial America. The balance of **75%** of total gas production is distributed among 47 states with the majority going to the Eastern and Midwestern parts of the country.

This graphically demonstrates that the independent operating in Louisiana is a vital force in supplying the continental USA with gas.

Price

The price of oil is determined in a world market and supply indicates that price will oscillate between $20 to $27 per barrel over the next five years. After 1990, supply will gradually come into balance with an increase in demand from a world no longer suffering from the shock of the price increases of 1972.

The price of gas will track oil prices to a degree and be held in check by the price of coal. The domestic supply of gas will see some constriction and with the erosion of the supply bubble, prices will firm in 1987.

Technology

In a world of advanced technology it is perceived that the oil industry has no trouble finding oil and gas, yet the one truth that is with us and will remain with us is that only through the drill bit can oil and gas be found. Each well drilled carries the high hope that new reserves will be found because subsurface geology and/or geophysics have indicated a reasonable degree of success. Yet no one knows the result until the well has been drilled. If this were not so, why did the industry spend 4 to 5 billion dollars buying leases from the Federal Government at Mucluk, the Gulf of Alaska and the Mississippi, Alabama and Florida offshore and drill nothing but dry holes for its trouble?

Taxation of Oil & Gas Production

According to the U.S. Joint Committee on Taxation, the oil industry ranks 9th in the amount of taxes paid by various industries with a rate of 21%. This does not include the calculations of so-called "Windfall Profit Tax". Including that tax, the oil industry ranks as the number 1 taxpayer with an effective rate of 43%. This does not consider the substantial tax contribution to state governments. A rather typical independent paid of his GROSS REVENUE the following taxes: Federal income tax - 8%; State severance tax - 8%; and WFPT - 3%; a total tax of 19% of gross income. **SOMEHOW, SOMETIME, THE ADMINISTRATION, CONGRESS AND THE OPINION MAKERS IN THIS COUNTRY MUST BE "FAIR" AND HONEST AND RECOGNIZE AND ACKNOWLEDGE THAT FACT.**

Hopefully, fairness will begin in this Congressional Committee. Each member of the House of Representatives and the Senate has an obligation to his constituents to protect them against government acts that exacerbate a falling supply condition in the oil and gas industry which has as the end result unsure supplies, with adverse national security implications and higher prices.

Depletion Allowance

In the never-ending search for the "holy grail of fairness", this committee has heard from various oil and gas industry sources and the Administration of the value of the depletion allowance as incentive to investment in the industry. It also has heard the depletion allowance singled out for criticism from many arguments that are specious. Therefore, we wish to set the record straight as to the depletion allowance and the theory behind it which has been lost in a wave of fashion that holds all income to be the same.

Historic

After the enactment of the 16th Amendment in 1913, the Congress recognized that capital has been increased upon the finding of oil and gas, so the "discovery value" provision was adopted. This established the "fair market value" for the underground deposit. Therefore, for income tax purposes, the computation of the "depletion deductions" by the discoverer of a mineral property was placed on a basis comparable to that for a purchaser of producing property.

The "fair market value" became a point of contention between government and producer, so in 1926, the Treasury Department requested Congress to adopt percentage depletion in an effort to solve the administrative problems, and at the same time provide approximately the same results as those under the discovery value rule. The result was for Congress to adopt the percentage depletion formula of 27.5% which has been scaled downward for independents producing under 1,000 BOPD, to the present 15%. The Treasury now proposes that it be eliminated altogether in five years.

Oil and gas in the ground is a combination of income and enhanced capital which the discovery value, i.e., depletion allowance formula, honors. If Congress chooses to eliminate this time-honored provision, it will violate the important principle of discovery value in the tax code and remove an important incentive for finding oil and gas.

Additionally, our reading of the tax reform bill as proposed by the Treasury indicates that the sale of an oil and gas property, less historic costs, would subject the entire proceeds to ordinary income tax regardless of the time held. Apparently, only through sale of securities would one enjoy capital gains treatment. This militates against operating as a sole proprietor as thousands of independent oil and gas men do.

This places the oil and gas investor, be he industry or non-industry, at a disadvantage to the venture capitalist starting new enterprises, yet the process of exploration and production is the same. We venture and "entrepreneur" every day. Every drilling prospect is like starting a new business.

It is not fair to the oil industry to ignore the discovery principle, yet allow preferential tax treatment of capital gains because of an investment that increases in value only from market demand. When we had increased value due to market demand, Congress slapped us with a "Windfall Profit Tax". This treatment affects the nation for it should be understood that should the oil and gas business become an unattractive endeavor, the nation loses. An adverse effect on national security, jobs and the nation's economic well-being will be the result.

Intangible Drilling Costs, Etc.

The case for continuation of the expensing of Intangible Drilling Costs as a current expense chargeable against current income is compelling. It has been briefed by everyone familiar with the industry and is even proposed by the Treasury Department. Please refer to IPAA's statement - page 14 (attached) - made before the House Ways & Means Committee on June 18, 1985. Thus, we will not expound on its obvious merits except to say: **If Congress abolishes this provision, the oil and gas industry, as we know it today, will be gone in two years.** The industry and its elaborate infrastructure of geology, geophysics, service companies, drilling contractors, landmen, lawyers, etc. will be unemployed and like Humpty-Dumpty, can't be put back together again in any meaningful time frame.

Investment Tax Credit

Investment Tax Credit is extremely important to the industry and we submit that the American Petroleum Institute's testimony before the U.S. Senate Committee on Finance on July 17, 1985, is our position (copy attached). In addition, Mr. Robert E. Mercer, Chairman of the Board of Goodyear Tire and Rubber Company, and one of three Co-Chairmen of the Coalition for Jobs, Growth and International Competitiveness, testified before this Committee during the week of June 10, 1985, and we feel strongly that his statements represent our views.

Royalty Owners

Royalty owners are a class of investors that are treated unfairly under the proposed tax reform.

So that the Committee will understand completely this investor, we shall describe him:

In the vast majority of cases, he is the owner of land and the minerals under the land or, in lesser cases, he is the owner of the minerals which have been severed from the land by either a sale of the mineral rights (sale of a capital asset) or reserved when the land passed from owner to owner.

The oil company leases these mineral rights by paying a cash bonus to sign a lease that has a primary term of various lengths of three to five years, with ten years in unexplored areas. Rentals have to be paid if drilling is not conducted, and if oil and/or gas is found the lease is "for as long as oil or gas is produced therefrom." The other consideration for the lease is the royalty to be paid the mineral owner from oil and gas and that too varies subject to the willing buyer and willing seller. The royalty is free and clear of cost, risk and expense of drilling, producing and operating the well. If the well is not on the mineral owner's land he may receive some royalty nevertheless because his land is in a "unit." State regulatory agencies and laws govern the unitization activity.

Therefore, the royalty owner is only a royalty owner for tax purposes when his minerals are being produced, his capital being surely extinguished. He is from all segments of society and lives in all parts of the USA. His family migrated from the South to the North when cotton was no longer king; his father left the dust bowl; he farms the land. According to estimates by the National Association of Royalty Owners in it's testimony before the House Ways and Means Committee on June 18, 1985, 73% of royalty owners are over 61 years old and either retired or nearing retirement. Of those, 30% are widows, 12% disabled, and 5% in health care facilities. Their checks are modest and 45% use them to supplement their social security.

The true picture of this group hardly squares with the muckrakers view of "oil barons."

We have gone to some lengths here to identify this group for they are very large in number with representation by only a few organizations such as LAIPRO, TIPRO, The National Association of Royalty Owners, etc.

However, the tax reform proposal offers them no viable method to protect their capital from taxation. Cost depletion is proposed, but except for the most recent buyer of a mineral interest how is one to know the cost of those minerals? It was all part of the cost of the land.

Therefore, he will have, as a practical matter, all his royalty income (his capital asset) taxed as ordinary income. In our view, this is a gross violation of his rights under the 16th Amendment.

For sake of "fairness", surely this will be analyzed and considered. See Depletion Allowance discussed in other segments of this statement.

Ironies

There are some very ironic things that would happen if tax reform injures the oil and gas industry's ability to perform. We present a few:

1. It is ironic that those who wish to keep U.S. oil reserves in the ground by buying imported oil also wish to increase domestic oil and gas taxes which will act to deplete domestic reserves, thereby accomplishing just the opposite. Producers would not have after-tax income to replace that which is produced. It has been amply demonstrated that reserve replacement is directly proportionate to dollars spent on exploration.

2. It is ironic that capital gains treatment is recognized in the market price increase of securities, yet the enhancement of the nation's resource base by the finding of oil and gas - discovery - is treated as ordinary income, less cost of finding. Strange reasoning.

3. It is ironic that those who wish us to reduce our military involvement in the Middle East also want us to use the Middle East as a primary source of energy.

4. It is ironic that there are those who wish us to increase our strategic oil storage by buying oil from foreign governments thereby increasing the deficit and our balance of payment problems. The same people also wish to increase the tax burden of the oil industry which can find domestic reserves cheaper than the government can buy imported oil with the ancillary costs of storage and borrowed money. Does it make any difference that the oil is in a hundred fields rather than a hollowed out salt dome? For security reasons, are not a hundred sources better than one or two?

5. It is ironic that there are those who would develop additional sources of supply overseas by subsidizing oil development in Latin America and Africa yet tax away dollars that find oil & gas right here in the most secure place of all - the USA.

6. It is ironic that the worthy, but difficult, government policy of "full employment" is directly attacked by an Administration tax proposal that increases taxes on all segments of business, the main source of employment.

7. It is ironic that studies show that the proposed tax reform will have the immediate effect of creating a recession - how deep is unknown - yet both monetary and fiscal policy is made to do just the opposite - encourage growth.

8. It is ironic that an Administration and Congress which wishes to encourage entrepreneurship would consider a tax policy that will protect the entrenched - lower rates - but allow no room for upward mobility. It should be understood that the new entry into every business must depend upon outside capital and commercial banking to finance his business. Without outside capital, there is no start-up and without a favorable cash flow after tax there is no commercial banking.

9. Under the umbrella of the Council for a Secure America, independent oil and gas producers and American Jewish leaders have joined forces recognizing that the United States and Israel have a common interest in fostering a strong independent oil and gas industry. It is ironic that member of Congress who are strong friends of Israel are, at the same time, sworn enemies of the independent oil and gas industry.

10. It is ironic that new business enterprise is encouraged by a favorable capital gain treatment and rightly so, but the new entry in the oil and gas business would be subject to increased taxation.

11. It is ironic that those who are most vociferous in their attacks on the oil and gas industry also call for an end to burning coal, an end to nuclear power, an end to "building hydro-electric dams", an end to our Middle East involvement, and so on. What would these people have us use for energy? Domestic oil and gas security demands tax policy that recognizes the unique capital formation needs of an industry spending dollars every year just to try and stay even. Oil and gas is not a renewable resource - it is a depleting resource needed by every facet of U.S. society.

12. It is ironic that some within our industry state that we can "live with the tax reform as proposed by the Administration." We suppose that in all circumstances the country might survive; however, it is the condition of that survival that is of utmost concern. If it is the desire of those people to see this industry constricted to a few large independents and majors, the proposed tax reform will accomplish that end.

Conclusion

The health of the nation's oil and gas industry and the nation's security are inseparable. And the industry's health is directly related to its cash flow which is the result of price and taxation policy. Price is set in the world market but taxation policy is set in Washington. So, it is a national imperative that tax policy not further erode an industry struggling to cope with a declining world price. This lower price may temporarily bode well for consumers of petroleum products but long term may cause severe economic problems for all facets of the world economy.

We have read various testimonies concerning oil and gas taxation and we cannot find an argument that presents data refuting our position that (1) the oil and gas industry is now heavily taxed; (2) further taxation will increase the nation's vulnerability to supply disruption - an unacceptable national security risk; and (3) the nation's overall economy will be adversely affected.

Every argument presented for the removal of the depletion allowance and expensing of intangible drilling costs has been shown to be specious either by this statement or by others in our industry (API, IPAA, TIPRO, etc.). Therefore, it must follow that the only valid reason to raise the taxation level of the oil and gas industry is to raise revenue without regard to the consequence of that act; namely, increased national security risk, increased unemployment, and an adverse ripple effect to the overall economy. All of this will see lower tax revenue as the inverse result of that which was intended. Growth certainly will not occur.

To those who continue to concern themselves with the false perceptions of "unfair tax advantages of tax shelter investments" in the oil and gas industry, the reduction of the marginal tax rate from 70% to 50% reduced the cash flow to the industry by those outside investors from $2.98 billion in 1983 to $.6 billion (estimated) for 1985. Increase the industry's taxes and all you have are the majors and a very, very few, very large independents. That is not a healthy situation for the nation's energy supply. Only a highly decentralized industry in numbers and in financing will find and produce the oil and gas needed by this country.

If this presentation is false or overblown, then it should be refuted item by item, statistic by statistic, and not dismissed as mere "special interest" rhetoric. The proposal before Congress is of vital national concern and subjects every region of our country and every segment of society to being placed in jeopardy and hostage to the demands of unstable foreign governments.

The health of the domestic oil and gas industry is not a parochial concern of Louisiana, Texas, Oklahoma, Wyoming, and other producing states. It is the concern of New Jersey, and its large refining complex, and of Idaho, Iowa, and Minnesota and their agriculturally based economies as well as every other section of the country.

Today there is increasing concern over manufacturers moving overseas and taking jobs with them. Should there be any less concern over tax policy that would transfer energy supplies of this country to foreign sources? Canada and Mexico are friendly, but today Mexico will not sell us gas at market established prices. Do we want them dictating our energy policy? **We think not.**

Our industry does not stand alone, disconnected from the rest of this country. Energy is the base on which all others stand. The very thought that Treasury I stated that investment dollars "would be employed more productively in other industries" is unsettling to say the least. Those other industries cannot function without energy.

Without a healthy, viable domestic oil and gas industry, less pipe is used and the U. S. steel worker has been further damaged, fertilizer for agriculture is more expensive and less secure. Every job in the United States is affected, directly or indirectly.

To sum up, we would like to quote two members of Congress. First, Senator Russell Long of Louisiana said if you want a capitalist system, you must have capital, and second, Senator Moynihan of New York said "in diplomacy when you start using the other side's words, you have lost." In the latter regard we take issue with those who call the statutory depletion allowance, expensing of intangible drilling costs and the investment tax credit "subsidies." If they are "subsidies", then it follows that all income and capital belongs to the State and they let you keep some through a "subsidy."

The Communist system has been described by a prominent figure as "evil" and it is the only system that maintains that all income and capital belongs to the State. Those of us in the oil and gas industry pay more than our share of taxes and are not subsidized.

The depletion allowance has been a part of our tax code since the enactment of the 16th Amendment to the Constitution. It is more important today than when placed in the code in 1926.

When oil and gas are discovered, have you not increased the capital of this country and should not that be recognized in the Tax Codes?

The stock market speculator -- who only adds liquidity to the market but rarely adds seed dollars to new enterprises -- is granted a magnificent tax incentive through a low rate for capital gains. In the proposed Treasury II plan, no other investment is granted capital gains treatment. **Why?**

Recent studies show that under the proposed plan it would be more profitable to invest in C. D.'s than in the oil and gas business. With return being the same, one having no risk and the other having great risk, is it logical to expect one to invest in oil and gas exploration? **Certainly not.**

Generally speaking, the Tax Reform plan of the Treasury penalizes all who risk and produce relative to those who are passive investors. This is bad tax policy for there is no such thing as a neutral environment in investing.

It has been stated to LAIPRO by Treasury officials that "the market forces would increase oil and gas prices to adjust for the income lost in taxation." They did admit that they could not guarantee this and did not know how long it would take for the correction. In the meantime, the oil industry unfortunately would wither away and this could severely damage national security.

We hold that surely national security would be damaged. What about all the industries dependent on indigenous energy? To repeat, no one in the United States is untouched by what happens to the domestic oil and gas industry.

Because the rig count today is down below 2,000 versus 4,600 in 1982, manufacturing generally in this country feels the ripple effect.

Tax policies that reduce production and increase unemployment spread instability, resentment and unrest. The result will be that the producers will disappear or be consumed and the country will have lost its life support system of energy.

To those who say we can always correct this if wrong, we say, not so!! Oil and gas exploration and production is not a sometime thing. It is an ongoing, interconnected process that, if interrupted, cannot come back into being because of the knowledge and infrastructure needed to function.

It is a life chain, which if you sever, you destroy.

The philosophy underlying tax reform proposals is that "investment decisions are best left to the free market; the current tax code sends the wrong economic signal resulting in wasteful investments." Government has no business using the tax code as a tool to foster goals and objectives. So the argument goes.

We disagree. If it does little else, government provides a forum for men to decide collectively on goals and objectives that secure our collective well-being. And it is perfectly proper for this government to determine that a healthy domestic oil and gas industry is necessary to secure our country's well-being and to adopt tax policies that foster this result.

TABLE I
Selected Statistics on Oil & Gas Operating Companies in the United States Ranked by Lease Revenues, 1982

	Total	First 200 Co.	All Other (8,208)
Value of Shipments & Receipts ($mill.)	134,969.4	113,271.9	21,697.5
Average Value per Company ($mill.)	16.1	566.4	2.6
% Distribution	100	83.9	16.1
Lease Revenues ($mill.)	102,555.8	91,054.3	11,501.4
Average per Company ($mill.)	12.19	455.27	1.40
% Distribution	100	88.8	11.2
Gross Book Value of Oil & Gas Field Properties ($mill.)	227,476.7	206,166.3	21,310.4
Average per Company	27.1	1,030.8	2.6
% Distribution	100	90.6	9.4
Depletion, Depreciation, and Amortization Cost 1982 ($mill.)	17,501.0	15,113.7	2,387.3
Average per Company ($mill.)	2.08	75.6	0.291
% Distribution	100	86.4	13.6

SOURCE: Bureau of the Census, Annual Survey of Oil and Gas, 1982 (MA-13k(82)-1) and 1982, Census of Mineral Industries, Crude Petroleum and Natural Gas, Industry 1311 (MIC82-I-13A).

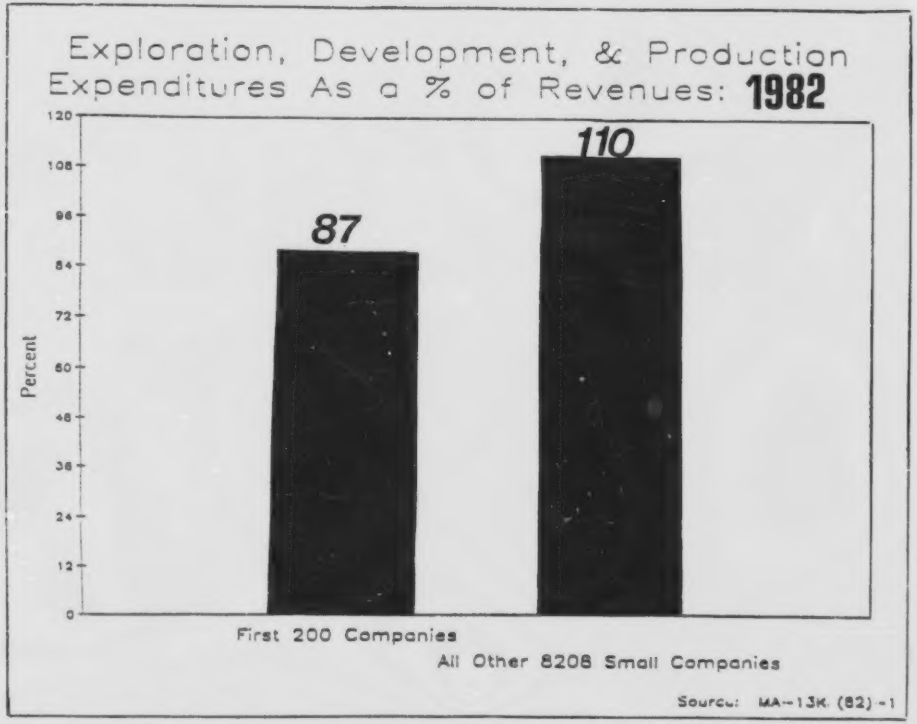
TABLE 11
Drilling Statistics for Companies Ranked by Total Lease Revenues, 1982

	Total	First 200 Co.	All Other (8,208)
Exploration Dry Holes			
Number of Wells (number)	8,988	2,904	6,084
Total Footage (thou. ft.)	53,394	25,492	27,902
Exploration Oil Wells			
Number of Wells (number)	5,303	1,073	4,230
Total Footage (thou. ft.)	27,608	8,505	19,103
Exploration Gas Wells			
Number of Wells (number)	3,751	1,279	2,472
Total Footage (thou. ft.)	22,977	11,983	10,994
Development Dry Holes			
Number of Wells (number)	4,309	1,559	2,750
Total Footage (thou. ft.)	25,333	11,298	14,035
Development Oil Wells			
Number of Wells (number)	14,675	8,020	6,655
Total Footage (thou. ft.)	72,268	41,620	30,648
Development Gas Wells			
Number of Wells (number)	9,303	4,122	5,181
Total Footage (thou. ft.)	61,318	31,436	29,882

TABLE III
Summary Drilling Statistics

	Exploration Wells				Development Wells			
	Wells		Total Footage		Wells		Total Footage	
	Number	%	Thou. ft.	%	Number	%	Thous Ft.	%
First 200 Co.	5,256	29.1	45,980	44.2	13,701	48.44	84,354	53.1
Other 8,208	12,786	70.9	57,999	55.8	14,586	51.6	74,565	46.9
All Companies	18,042	100.0	103,979	100.0	28,287	100.0	158,919	100.0

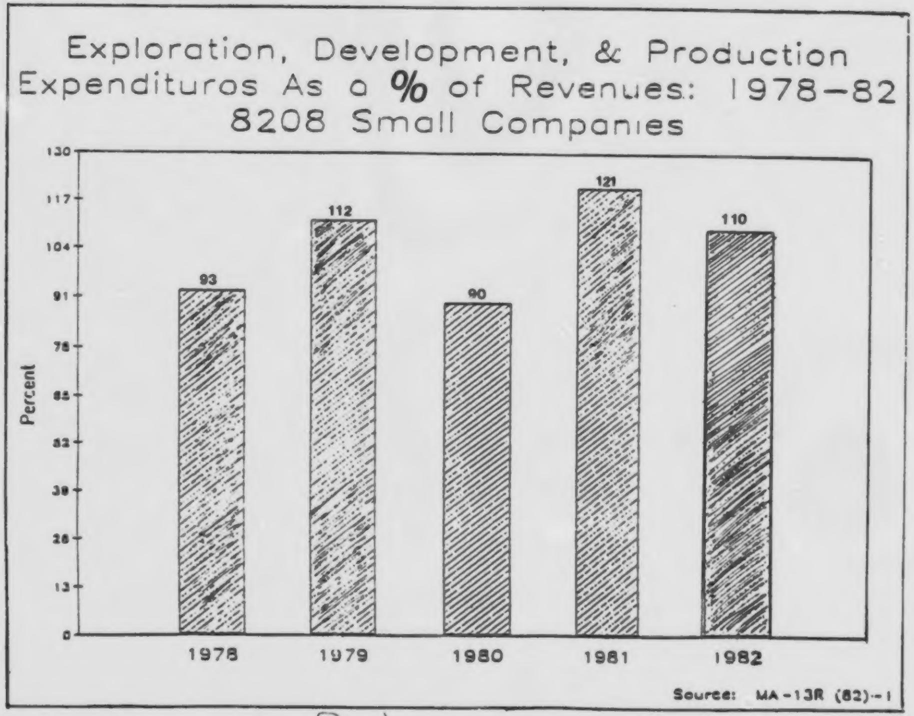
FIGURE 1



Exploration, Development, & Production Expenditures As a % of Revenues: 1982

Source: MA-13K (82)-1

FIGURE 2



Source: MA-13R (82)-1

(ATTACHMENT #1-IPAA's
Ways & Means Statement)

Another perception is that expensing of intangible drilling costs (IDC) is a contrived, artificial deduction that the oil and gas industry has used to avoid its tax liability. The label "intangible" is misleading. A more accurate term is unrecoverable expenses of exploration and drilling.

In fact, IDCs are those direct expenditures made for items such as wages, fuel, repairs, hauling, supplies, etc., necessary for the drilling and preparation of wells for production. They are items which, in and of themselves, have no salvage value. IDCs are funded with cold, hard cash. IDCs typically cannot be financed by a bank or other financial institution, but must be paid with an operator's internal cash flow or outside equity money supplied by investors. IDCs are, in a sense, analogous to ordinary and necessary operating costs in any other business, since a continuous quest for new reserves through additional drilling must occur to avoid gradual liquidation of the business enterprise. IDCs are the ordinary recurring cost of doing business in the petroleum exploration and production industry.

Still another perception is that IDCs are no different than expenditures to construct a permanent structure such as an office or apartment building for which recovery of costs should be matched with future income.

The fact is IDC expenditures are made before a capital asset is known to exist, or if found to exist, whether it will produce income sufficient to recover the expenditure. As stated before, in spite of technological advances, only the actual drilling of a well will determine if produceable oil and gas reserves exist in a given location. Even after a completion attempt has

apparently been "successful," there is no way to conclusively determine the extent of the oil or gas reserves; petroleum engineering is far away from being an exact science. The oil and gas industry, and I personally, can document hundreds of cases where a discovery which was thought at the time of completion to be a "significant" find fizzled out only a few months later, into a well that would never return the operator's investment due to any of several possible causes which cannot be determined in advance. If IDCs were required to be capitalized, many of these wells would be abandoned, to write off the remaining IDC and not "carry" the cost, even though the oil or gas recovered would mean that much less oil or gas would have to be imported.

The fact is, expensing of IDC in the oil and gas industry fosters the concept of "economic neutrality", because completion and operating decisions are not influenced by the tax treatment of IDC. Decisions whether or not to attempt to complete an oil or gas well, for example, should be determined solely on the prospect of whether costs after the casing point may be recovered through future revenues, since costs to the casing point are "sunk costs." Capitalization of IDC would distort our economic decision making process.

(Attachment #2 - API's
Senate Finance Statement)

CHARLES J. DiBONA
PRESIDENT
AMERICAN PETROLEUM INSTITUTE

Before The
UNITED STATES SENATE COMMITTEE ON FINANCE

July 17, 1985

Investment Tax Credit

The petroleum industry is deeply concerned by the proposal to repeal the investment tax credit (ITC), a key element of the existing capital cost recovery system in mitigating the inherent bias of the income tax against savings and investment. The ITC serves three important functions: (1) it augments the present value of capital cost recovery allowances; (2) it serves as a surrogate for indexing capital cost recovery allowances for inflation; and, (3) it is a source of funds for financing new capital investment.

In combination with ACRS, the ITC has been an important contributor to the investment boom in plant and equipment which has led the recent economic recovery. In testimony before the Committee on Ways and Means on June 11, 1985, Professor Michael Boskin of Stanford University, stated that the ITC in combination with ACRS has provided the stimulus for about 25% of the increase in net investment in the United States between 1982 and 1984. Elimination of the ITC could well lead to an economic downturn as business finds the aggregate present value of its capital cost recovery allowances diminished. Professor Martin Feldstein of Harvard University has recently said that:

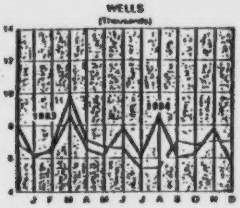
> Experience shows that the ITC provides a substantial boost to investment in business equipment. Eliminating the ITC would not only reduce the long-term level of investment spending but would have a particularly adverse effect on investment in 1986...
>
> If it looks as if the ITC is going to be eliminated next January, companies will bring forward to this year as much of their planned 1986 investment as possible in order to take advantage of the ITC while it is still available.

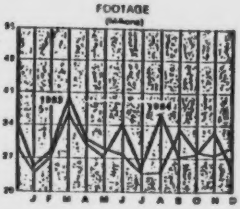
Some of Professor Feldstein's concern about 1985-86 could be mitigated. Equity requires that projects under which taxpayers are committed to expenditures or an engineering analysis has been made before the effective date of the provision should be grandfathered. Such rules will prevent uncertainty in financial planning during the pendency of the tax reform debate.

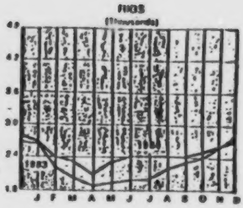
As indicated in Figures 6 above and 8 below, the ITC augments the present value of cost recovery under 5-year ACRS and provides equivalency to current expensing of IDC's at a 10% discount rate. The 5-year ACRS class includes most tangible assets used in the petroleum industry in exploration, production, and refining operations. Without the ITC, the present value of cost recovery allowances under ACRS falls substantially short of current expense equivalency. The shortfall is somewhat less under the proposed CCRS. Assuming an average inflation rate of 5% and a tax rate of 33%, an ITC rate of about 3% for CCRS Class 3 and about 4% for Class 4 would be required to attain the current expense equivalency present under existing law at the risk free 10% discount rate. At a more realistic discount rate of 15%, an even higher rate of ITC would be required to match the current expensing standard.

The ITC has also functioned as a surrogate for indexing cost recovery allowances under present law at moderate inflation rates. If there is concern with the imprecision of this feature of the ITC, the present ACRS system could be indexed to eliminate the erosion of capital values through inflation. However, as indicated above, an ITC at a lesser rate would still be required to attain current expense equivalency.

The ITC also serves as an important source of funds for financing new capital investment which may not be easily replaced by other sources. The result of repeal would likely be a curtailment of investment in the petroleum and other capital intensive industries.







DRILLING ACTIVITY IN THE UNITED STATES¹

STATE OR DISTRICT	TOTAL NEW WELLS REPORTED									EXPLORATORY WELLS						**AVERAGE RIGS RUNNING DEC.
	December 1984							Jan.-Dec. 1984		December 1984						
	Oil	Gas	Dry	Service	Suspended	Total wells	Total footage	†Total wells	†Total footage	Oil	Gas	Dry	Suspended	Total wells	†Com. 1984 wells	
Alabama	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alaska	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Alaska Offshore	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arizona	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arkansas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Atlantic Coast	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
California	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Colorado	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Florida	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Illinois	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indiana	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Kansas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Kentucky	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Louisiana	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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¹ Data supplied by Petroleum Information Corp.
† Cumulative totals revised monthly
** Hughes Tool Co. count; totals may not add due to rounding

The American Association of Petroleum Geologists Bulletin
V. 69, No. 11 (November 1985), P. 1950-1962, 20 Figs., 3 Tables

Role of Small Oil and Gas Fields in the United States[1]

RICHARD F. MEYER[2] and MARY L. FLEMING[3]

ABSTRACT

With the maturation of oil and gas production operations in a province or country, fields found by new-field wildcats diminish in size. The actual economic size cutoff is a function of such factors as depth, water depth offshore, and accessibility to transportation infrastructure. Because of the constraint of resource availability, price is now the principal force driving drilling activity. The proportion of new-field wildcats to other exploratory wells has fallen in recent years, but success in new-field wildcats has risen to about 20%. However, only very small fields, less than 1 million BOE, are being found in large numbers. The 200 largest companies, based on lease revenues, drill 30% of all wells and 44% of the footage, and they make 83% of drilling expenditures. The 20 largest companies alone find 60% of the large fields and 20% of the small ones. Through 1979, almost 93% of known gas fields and 94.5% of known oil fields were small, yet they contain only 14.5% of the ultimately recoverable gas and 12.5% of the oil. However, small fields are less capital intensive than equivalent-capacity synthetic-fuel plants, they are extremely numerous, and they are relatively easy and inexpensive to find and put on production.

INTRODUCTION

Over time, the size of fields being discovered in the United States has diminished dramatically. Meyer (1966) demonstrated that for a part of the Permian basin this effect could be seen as early as 1950. While the number of annual discoveries in Pennsylvanian-Wolfcampian rocks in southeast New Mexico was generally increasing (to data year 1961), the average field size was drastically decreasing. Similarly, in the USSR, concern with the means of producing oil from the small fields being found was expressed by Muslimov and Akhmedzvanov (1975), for they recognized the limitations of exploiting each field individually. In Australia, the Petroleum Exploration Association (APEA) has estimated a discovery rate through 1982 of 830,000 bbl/well, excluding the giant Kingfish and Halibut fields (*Oil & Gas Journal*, 1984). Since 1975, the APEA estimated that 825 wells accounted for 600-800 million bbl of reserves, including Fortescue and more recent discoveries, or about 700,000 to 1 million bbl/well.

In two reports (Interagency Oil and Gas Supply Project, 1980; Drew et al, 1982), Drew and his associates formulated a method for estimating undiscovered resources by depth and field size. They showed that future discoveries in the Gulf of Mexico and Permian basins would be in small fields. This work has been incorporated in a comprehensive review by Meyer et al (1983). Present concern with small fields is seen in Indonesia (Parker, 1984, p. 60), for example, where companies "feel that chances for finding big fields are small. They contend that if Indonesia is to maintain its production capacity of 1.8 million bbl/day through 1990, it will have to permit development of smaller fields." Many reports and the results of exploration have shown that most oil and gas is found in a relatively few giant fields, such as Prudhoe Bay, East Texas, and Hugoton, and these are generally discovered early in the exploration cycle of a particular basin or province. Obviously, few such fields are being found today. Our purpose in writing this paper is to examine the sizes of fields being found currently, the sizes of the companies finding them, the amount of the resource likely to be found in the future in fields of various sizes, and the possible consequences of these circumstances.

DEFINITION OF SMALL FIELD

A small field may be defined in various ways. For convenience, we follow the classification of the American Association of Petroleum Geologists Committee on Statistics of Drilling (AAPG CSD). A small field contains an estimated ultimate recovery of less than 10 million bbl of oil or 60 bcf of gas—equivalent to AAPG Class D. Very small fields are those containing less than 1 million bbl of oil or 6 bcf of gas—Class E of AAPG. Fields of Class A (more than 50 million bbl of oil or 60 bcf of gas), Class B (25-50 million bbl of oil or 60-150 bcf of gas), and Class C (10-25 million bbl of oil or 6-60 bcf of gas) are considered to be large.

PROBLEMS WITH STATISTICAL DATA

Petroleum industry statistics are rarely available in precisely the form needed for particular purposes. Certain information will never be available because records are not kept; an example is information on cumulative natural gas production from many of the fields developed prior to the 1940s. Records of many discovery wells also are faulty, commonly because of the nature of the exploration-production process, such as that in operation in the waters of the Gulf of Mexico. An additional problem with drilling data arises from the fact that completion dates of many wells disagree with reporting dates, usually a calendar year. Smith International (1974-1983) suggested that reported drilling activity for a given year may be 20-25% higher than actual completions. Similar reporting-lag problems are noted by Pankonien (1984). We believe such statistical aberrations

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[1] Manuscript received, December 10, 1984; accepted, July 26, 1985.

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We gratefully acknowledge the constructive comments and critical review of the manuscript by Katherine B. Krystinik (U.S. Geological Survey), Arthur A. Meyerhoff (consulting geologist), Robert E. Megill (consultant), and Peter R. Rose (Telegraph Exploration).

must be recognized, but they do not invalidate the trends in drilling and discovery activity on which we comment.

EXPLORATION ACTIVITY

The present state of exploration success is apparent from a few general statistics. In only 1 year since 1965 have additions to reserves of crude oil exceeded annual production (Figure 1). The apparent jump in reserves for the year 1980 largely reflects positive revisions when the U.S. Department of Energy, Energy Information Administration (EIA) assumed responsibility from the American Petroleum Institute and American Gas Association for reserves data. The EIA bases its annual reports on its Form 23 survey instead of the committee approach used by the API and AGA. Beginning in 1968, additions to reserves of natural gas have fallen below production annually (Figure 2), except for 1970. In that year reserves resulting from the 1968 Prudhoe Bay discovery were included. The addition of natural gas reserves did not offset production, but the degree of failure is masked because a drop in demand in the 1970s, coupled with the effects of gas imports from Mexico and Canada, led to development of spare production capacity.

The proportion of stripper to nonstripper oil wells in the principal producing states has shown a steady increase (Figure 3). For the United States, such wells average 2.8 b/d and represent reserves of 4.4 billion bbl and 13.5% of annual production (DeGolyer and MacNaughton, 1983). The existence of numerous stripper wells indicates a mature producing industry characterized by severely depleted fields. Available data do not show the number of such wells that result from production decline and the number that result from drilling new wells.

Figure 4 shows the numbers of wells drilled, indexed to 1967 as representing 100, and oil and gas prices at the wellhead, indexed to 1967 as representing $1.00/mcf of gas and $1.00/bbl of crude oil. From 1935 to 1972, prices were steady and gradually rose from about $0.35 to $1.16; oil and gas prices diverged little, primarily because prices were regulated through prorated production and consequent excess production capacity until 1970. Since that time, gas prices have increased 13 times and oil prices 8 times. Because 1 bbl of oil has approximately six times the energy content of 1 mcf of natural gas, prices might be expected to reflect this discrepancy, but they clearly do not. In actual value (1982 prices), natural gas should be about $4.75/mcf rather than $2.43. But in indexed terms, gas prices have increased in value more than 15 times and oil prices have increased a little less than 10 times since 1967.

The first price period encompassed two drilling phases, the peaks of which, in 1937 and 1955, were separated by World War II. Whether there would have been a single, perhaps more subdued phase without the war is conjectural, because the war ended the economic depression. Figure 4 suggests that these peaks resulted from an attempt to increase cash flow by volume production at relatively stable prices, which implies that the peaks were not driven by price. A plot of year-by-year price change leads to a similar conclusion: the only important percentage increases came in the periods 1931-1932, 34%, and 1945-1947, 58%. The peaks of activity also can be related to periods of major price increase: 1933-1937, 76%, and 1943-1956, 133%. Generally, until 1970, the United States and, in fact, most of the world had spare production capacity; after 1970, the U.S. had no spare capacity, and other countries had only a little, with a few exceptions. Thus, we are uncertain whether price led activity or was a consequence of activity in the earlier price period.

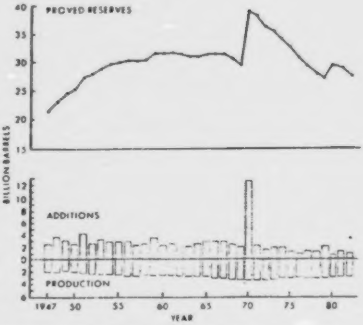

Figure 1—Proved reserves, additions to reserves, and production of crude oil by year, 1947-1982, in U.S. Data are from American Petroleum Institute, American Gas Association, and Canadian Petroleum Association (1980), and U.S. Energy Information Administration (1982).

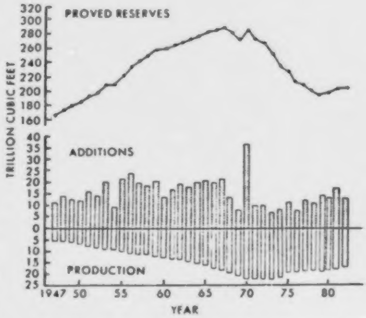

Figure 2—Proved reserves, additions to reserves, and production of natural gas by year, 1947-1982, in U.S. Data are from American Petroleum Institute, American Gas Association, and Canadian Petroleum Association (1980), and U.S. Energy Information Administration (1982).

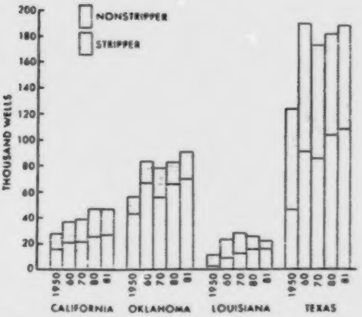

Figure 3—Number of stripper wells in California, Louisiana, Oklahoma, and Texas, 1950-1981. Data are from DeGolyer and MacNaughton (1983).

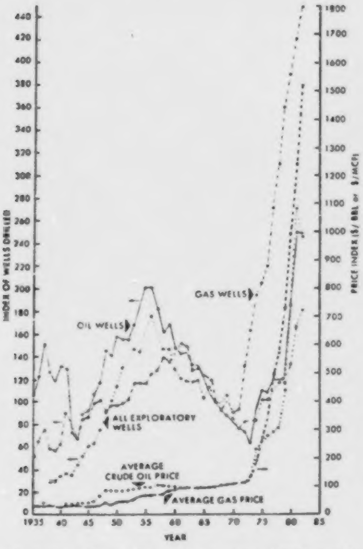

Figure 4—Number of U.S. oil, gas, and exploration wells indexed to 1967 = 100 and wellhead oil and gas prices indexed to 1967 = $1.00, 1935-1982. Data are from DeGolyer and MacNaughton (1983).

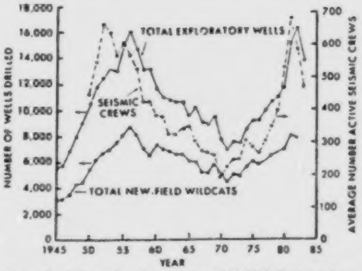

Figure 5—U.S. exploration activity, 1945-1983. Data are from Johnston (1983), and DeGolyer and MacNaughton (1983).

The second price phase, beginning in 1973, clearly was instigated by strong price increases, amounting to 99% from 1972 to 1974 and 140% from 1978 to 1980. For the period 1973-1982, the increase was 633%. Here, resource scarcity, real or contrived, undoubtedly resulted in price-driving activity.

This result poses vexing questions. Can the sum of the drilling effort—exploratory wells and production wells—yield sufficient oil and gas to offset a production decline, and is domestic production ever likely to match demand again?

Increased production and, indeed, increases in reserves can come from several sources. Stripper wells prolong field life. Infill drilling adds to production capacity and, in most fields, to reserves. Secondary recovery—pressure maintenance and waterflooding—is essentially indistinguishable today from primary recovery. Hydraulic fracturing and its offspring, massive hydraulic fracturing, were technological breakthroughs as rare as the discovery of a giant field and probably worth more. Enhanced oil recovery has proved effective, at times highly so, but is also very site-specific. Thus, the burden of additions to reserves must fall mostly to exploration, particularly if significant improvement in production capacity is also to be achieved.

Figure 4 provides little evidence that exploratory drilling leads to development drilling. Indeed, nothing really seems to lead to anything consistently because of the complex interaction of economics, regulation, and tax policy. The net effect is that when cash flow is high, all companies drill; when low, they retreat.

Figure 5 plots the average number of active seismic crews, with the number of exploratory wells and new-field wildcats. Seismic activity peaks 1-3 years before exploration drilling, but the lead time has narrowed perhaps because seismic data processing is faster, the number of prospects to drill is smaller, and most importantly, the need for immediately drillable prospects is greater.

Although drilling additional wells can add to production capacity and reserves, new discoveries are the only means to adding "real" future reserves. Of the five classes of exploratory wells, only one—the new-field wildcat—normally

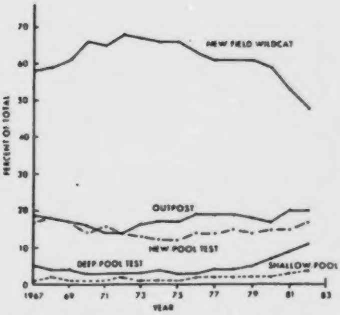

Figure 6—Percentage of U.S. exploration wells by class, 1967-1982. Data are from Johnston (1983).

offers the opportunity for a large addition to reserves; the others are drilled in association with known fields. Figure 6 shows the proportion of exploration wells drilled each year in each class. Historically, the new-field wildcat has received the most attention because the potential rewards greatly outweighed the higher risks. In recent years, however, perceptions have changed. The rewards of drilling a production well that is more likely to produce oil or gas have increased. Many structures producing at shallow depths persist downward and contain sizable hydrocarbon deposits. Improved drilling technology has made drilling for such deep reservoirs feasible.

The shallow-pool test is still the most often successful, i.e., it most often finds technically producible amounts of oil, although its production may not be financially rewarding. Declining success in recent years suggests that the most obvious prospects have already been drilled (Figure 7). Success in drilling new-field wildcats has improved steadily over the years (Figure 7), no doubt in large measure because of improved exploration technology. The most revealing information with respect to exploration is shown in Figure 8, in which oil and gas are converted to barrels of oil equivalent (BOE).

The sizes of new-field discoveries, as reported by the AAPG CSD, are underestimated. For our purposes, however, we believe the data adequately and fairly depict the discovery trends for field size. Since the mid-1940s, discoveries of fields larger than 10 million BOE (Classes A-C) have persistently declined, as have small fields (Class D). Only among the very small fields (Class E) has success been unrestrained. The number of large fields (Classes A-C) discovered is essentially independent of the number of new-field wildcats drilled. Numbers of Class D fields relate somewhat closer to the total of new-field wildcats, and very small discoveries track wildcatting quite closely. The implication is that many very small fields exist, and the number of fields found relates to drilling activity. However, finding larger fields requires something more than mere activity.

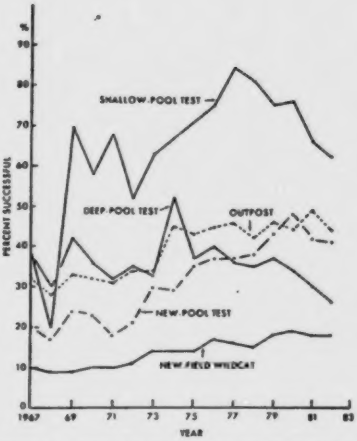

Figure 7—Percentage of successful U.S. exploration wells by class, 1967-1982. Data are from Johnston (1983).

EFFECTS OF DRILLING TECHNOLOGY

Smith International, Inc., has introduced a new statistical series embodied in its drilling activity correlator (SiiDAC). This measure delineates activity on the basis of rig capability (Figure 9). The three types of rigs may have different depth capabilities from basin to basin so that, in practice, Smith International bases its data on AAPG geologic provinces. In general, Type I rigs may drill as deeply as 4,000 ft; Type II, 10,000 ft; and Type III, below 10,000 ft. Figure 10 gives the actual number of wells drilled by each type of rig.

The number of wells drilled by Type III rigs has increased slowly relative to the number drilled by shallower capability rigs, but this increase is misleading. Wells drilled by Type II rigs are the heart of the oil and gas drilling business (Figure 11). However, although only 10% of the wells are drilled by Type III rigs, these account for about 25% of the footage drilled. The simple Type I rig now accounts for more than 35% of the wells drilled but only 18% of the footage. These figures correlate with the exploration activity already described, now shifting toward the small field, which for economic reasons is in the range of 5,000 to 6,000 ft or less onshore.

Sharply improved prices invariably result in increased activity at the marginal end of field-size distributions. Solid improvements have also been made in both rig efficiency (the number of wells drilled per active rig) and drilling efficiency (the footage per rig) during the last 2 years (Figure 12). If effort is being concentrated on drilling in known

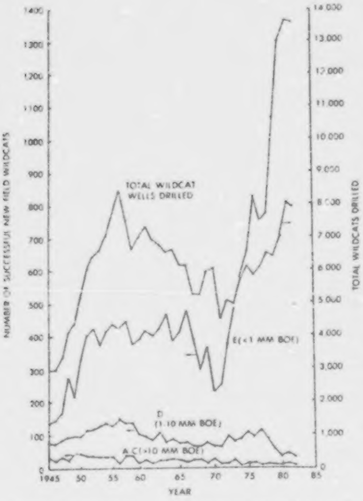

Figure 8—Number of U.S. successful and total new-field wildcats by field size, 1945-1982. Classes A-C > 10 million BOE; Class D = 1-10 million BOE; and Class E < 1 million BOE. Data are from Johnston (1983).

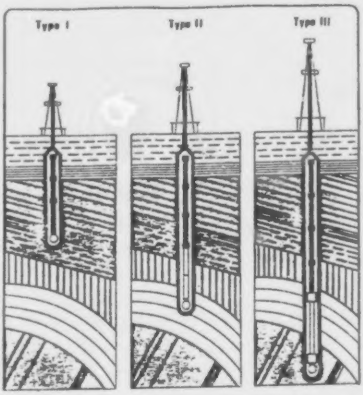

Figure 9—Smith International, Inc., drilling activity correlator (1974-1983) rig categories. Type I, small rig with simple drill string and open-bearing, milled-tooth bit used to drill to total depth; Type II, moderate-size rig with either a sophisticated drill bit or drill-string components, but not both, used to drill to total depth; and Type III, sophisticated rig using advanced drill-string components with premium-quality bit to drill to total depth. (Reprinted by permission of Smith International, Inc., and *Oil & Gas Journal*.)

fields and in finding and drilling small fields, then rig and drilling efficiencies are of paramount importance.

EXPLORATION ACTIVITY BY COMPANY SIZE

In attempts to compare the activity of large and small companies, various cutoffs have been used. In its statistical series, the U.S. Bureau of the Census (1984) does not name individual companies. One grouping of companies by the census is based upon lease revenues on a net company interest basis. Such a grouping by company size is desirable in analyzing exploration and development in the United States. The census classifies activity by the largest 8, 16, 50, 100, and 200 companies in terms of lease revenues, and by all other companies combined. If these groupings are roughly related to total company assets, as listed by the *Oil & Gas Journal* (1983) for the largest 400 companies, then the first 8 companies would be the 8 internationals, the largest 16 would include most of the large integrated companies having assets in the $9 billion class, and the largest 50 would encompass such companies as Mitchell Energy and Louisiana Land, at the $1.7 billion level. The largest 100 companies would include those having $550 million in assets, and the largest 200 would have assets greater than $40 million.

Figure 13 is enlightening; it shows a progressive increase in wells and footage drilled, and expenditures for this purpose, through the first 200 companies. However, all of the other companies together, totaling probably 16,000-18,000 enterprises, drill more wells, drill more footage, and spend far less money for the purpose.

Figure 14 compares the ratio of expenditures for production to expenditures for exploration drilling for the various groups of companies in 1978 and 1982. In 1978, the largest 200 companies spent $1.70 on development drilling for each $1.00 spent on exploration, whereas the small companies spent only $1.05. In 1982, these expenditures were reversed, the largest companies spending little more for development than for exploration, whereas the small companies were spending much more for development than for exploration. A probable explanation for this change is that the larger companies had, for the most part, exploited their past discoveries and had moved back into exploration, whereas the smaller companies, having less venture capital available in the recession economy, had moved into a more conservative position. In addition, the small companies were emphasizing farm-outs of marginal discoveries as a means of obtaining production at a lower cost than by drilling exploratory wells.

The AAPG CSD tabulates annually the results of exploratory drilling. At 3-year and 6-year intervals, the CSD reviews its original new-field wildcat discovery-size assignments. Results of such drilling for the period 1970-1982

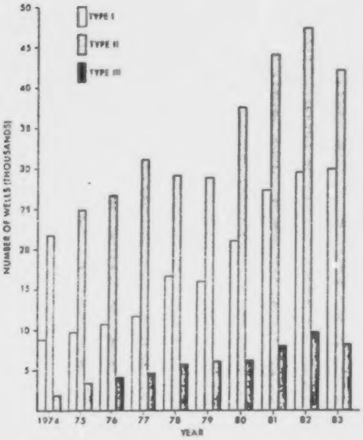

Figure 10—Number of U.S. wells drilled by rig type, 1974-1983. Data are from Smith International, Inc. (1974-1983).

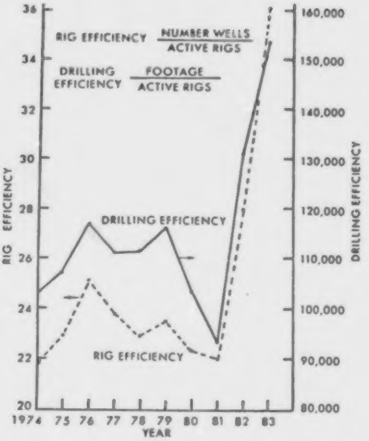

Figure 12—Rig and drilling efficiencies in U.S., 1974-1983. Data are from Smith International, Inc. (1974-1983).

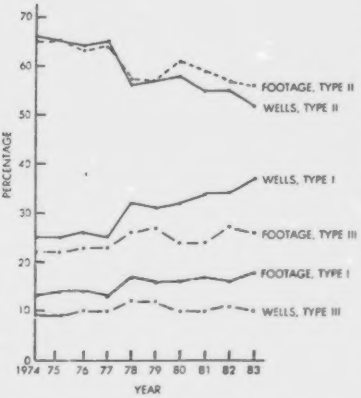

Figure 11—Percentage of U.S. wells and footage drilled by rig type, 1974-1983. Data are from Smith International, Inc. (1974-1983).

revealed 13,602 discoveries in Classes A-E (Tables 1, 2). These tables reveal little movement in the larger field sizes from one class to another. Class A and B fields were rarely downgraded in size. Among Class C fields, 7 were upgraded after 6 years to A or B; 37, or 30%, were downgraded to D or E. Among Class D fields, 23 gas and 12 oil fields moved into Classes A-C, and 7 grew in size to Class A. Even in the Class E discoveries, 34 grew to Class C or larger after 6 years, and many fields were upgraded to Class D.

In summary, we began with 108 large gas fields (Classes A-C) and 73 large oil fields, a total of 181. After 6 years, 28 large gas fields were downgraded to small classes, and 49 small and very small fields were upgraded, a net gain of 21 large fields not apparent in Figure 8. Similarly, we had a net gain of 16 large oil fields, for a total of 37 large-field discoveries.

These data emphasize the importance of the apparent small field discoveries, which may be the precursors of very large fields. A few small or very small gas field discoveries became large oil fields, and vice versa. Such fields were included in the upgrading process.

The CSD data include important information on the sizes of companies making discoveries. Of the 23 initial Class A oil and gas fields, 18 were found by the first 20 companies ranked by total assets (*Oil & Gas Journal*, 1983). These companies found 20 of the 34 Class B fields and 52 of the 124 in Class C. Therefore, large companies have accounted for 60% of the large fields and probably more, if allowance is made for discoveries on farm-outs. The big

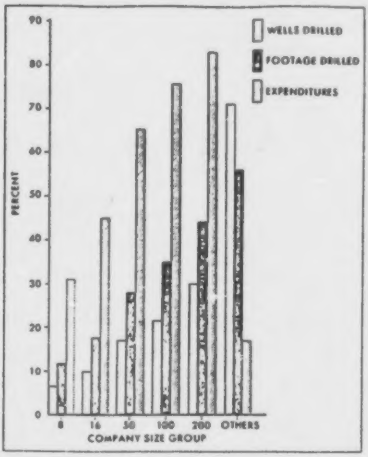

Figure 13—Exploration activity in U.S. by company size group, 1982. Company size groups are defined in text. Data are from U.S. Bureau of Census (1984).

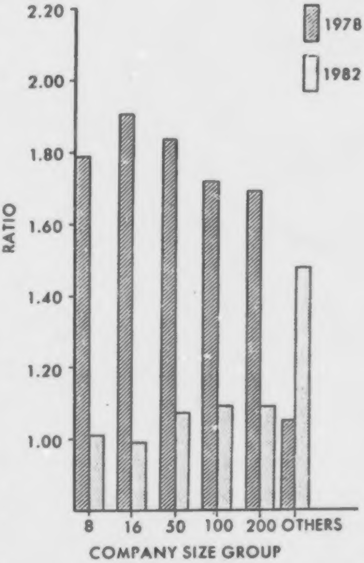

Figure 14—Ratio of expenditures for production drilling to expenditures for exploration drilling in U.S. by company size group, 1978 and 1982. Data are from U.S. Bureau of Census (1980, 1984).

companies also are credited with 266 of the 1,323 fields of Class D, or 20%. We made no attempt to tally the Class E discoveries. Clearly, influence by larger companies is pervasive throughout the drilling sector of the petroleum industry.

U.S. Bureau of the Census (1984) data show stripper production to be 11% of total production as compared with the 13.5% shown by industry sources (DeGolyer and MacNaughton, 1983). We might expect stripper production to be the domain of the small operator, but this is not so. In 1982, the 8 largest companies had 25% of stripper production, and the first 200 had nearly 69%, leaving the others with just 31%. These figures suggest that most stripper production is a sign of production decline, not exploration intent.

Based on census data alone, we cannot determine which companies are drilling where. The census provides no data on the sizes of companies drilling in Alaska. With respect to dry holes, however, we do know from available census data that the average 1982 cost of drilling such holes in Alaska was $11 million onshore and $17.5 million offshore. In the lower 48 states, comparable costs were $0.5 million onshore and $4.9 million offshore. We have shown that the small companies drill more wells and more footage, and spend less to do so. The reason is that they operate mainly in the onshore lower 48 states and generally avoid deep drilling. Furthermore, 55.3% of the exploratory wells drilled by the first 200 companies are dry, whereas 47.6% of those drilled by the others are dry. Small operators prefer safer territory. However, small companies face greater risks when drilling development wells; 19% of the development wells they drill are dry compared with only 11.4% drilled by the first 200 companies, mainly because the chance of failure is greater around small fields.

RESOURCE POTENTIAL OF SMALL FIELDS

Several studies of the undiscovered oil and gas resource potential of the United States have been made. These studies do not usually include data on field sizes. Nehring (1981) analyzed the significant fields, which he defined as those larger than 10 million BOE, and concluded that those of smaller size are insignificant. His logic, that 5,000 fields of 200,000 bbl each add up to only 1 billion bbl, is unassailable. However, many small fields and only a few large ones remain to be found, which considerably restricts the alternatives. The difficulty is not in telling what has happened historically but in defining future possibilities.

Table 1. Gas Discoveries: Summary Results of New-Field Wildcat Drilling, 1970-1982*

Initial Class	Number of Gas Discoveries	Changed to Class	Number of Fields Changed After 3-Year Review	Number of Fields Changed After 6-Year Review
A	9	C	0	1
		D	1	0
B	19	A	0	1
		D	1	0
		E	0	1
C	80	A	1	2
		B	4	4
		D	13	17
		E	8	7
		F	1	1
D	747	A	4	3
		B	4	6
		C	16	14
E	5,821	A	3	4
		B	2	1
		C	9	14
		D	167	185

*Data from American Association of Petroleum Geologists Committee on Statistics of Drilling

The Interagency Oil and Gas Supply Project (1980) approached the matter of undiscovered oil and gas resources using a discovery process model, which defined the resource in terms of field-size class and depth. The report concluded that, after 1974, the Permian basin had about 34,000 fields remaining to be discovered at depths less than 20,000 ft. Of these fields, 6.6 would be 50 million bbl or larger, 20.7 would be 12-50 million bbl, and 681.6 would be 1.5-12 million bbl. Of the remaining smaller fields, nearly all are at depths less than 10,000 ft, and perhaps one-third are at depths less than 5,000 ft. Although this number of potential discoveries is implausibly large, it indicates the relative importance of the small field sizes in the future.

Table 2. Oil Discoveries: Summary Results of New-Field Wildcat Drilling, 1970-1982*

Initial Class	Number of Oil Discoveries	Changed to Class	Number of Fields Changed After 3-Year Review	Number of Fields Changed After 6-Year Review
A	14	C	1	1
B	15	—	—	—
C	44	A	1	1
		D	5	7
		E	5	5
D	576	A	2	4
		B	3	3
		C	7	5
		E	**	**
E	6,231	A	1	2
		B	1	4
		C	8	9
		D	**	**

*Data from American Association of Petroleum Geologists Committee on Statistics of Drilling

**Not counted by the writers.

Similarly, Drew et al (1982) studied the Gulf of Mexico, dividing it into two trends: the Miocene-Pliocene and the Pleistocene. Using a field size of 0.76 million bbl as an economic cutoff, which is probably too small, they found 2,720 fields remaining to be discovered. Of these, 2,571 are in the size range of 0.8 to 12 million bbl of recoverable oil.

The techniques of Drew et al have been of major importance in estimating future oil and gas production in mature petroleum provinces. Their work provided not only a resource estimate but also the field-size distributions in which the resource might be contained, the depth zones of occurrence, and the economic truncations of the field sizes. Their method, based on the Arps-Roberts model developed for the Denver basin, depended on basin area, average areal extent of known fields in each size class and depth interval, and an efficiency factor for exploration, which for random drilling is assumed to be unity. From these data, the ultimate number of fields in each size class in the basin may be estimated, based on projected numbers of exploratory wells. The data of Drew et al, based on the Gulf of Mexico and Permian basin examples cited above, clearly suggested that, at present rates of exploratory drilling nationwide, the size of the resource base—at least as it relates to small and very small fields—does not limit exploration.

Given a continuation of exploration, what might be the contribution of small fields? We have shown that most discoveries made today are small and very small fields. Historic evidence suggests that this condition not only prevails in mature basins but also in newly discovered frontier basins. To provide perspective, we have used the Petroleum Data System (PDS) of the University of Oklahoma to investigate the historic oil and gas contribution of small and very small fields.

The PDS has been tested in two ways to determine completeness of coverage. First, the field-production totals of the individual fields in the file were aggregated by state and outer continental shelf (OCS) areas for annual production from 1971 to 1984. These totals were compared with the totals in the DOE EIA oil and gas supply annuals, which were accepted as the standard of completeness of coverage. Except for the Appalachian area, where data are scant, all of the totals were within 10% of the actual, and most were within 5%.

We next determined ultimate recovery for oil fields, including associated/dissolved gas, and for nonassociated gas fields, and we aggregated the data by year of discovery. Ultimate recovery was considered to be cumulative production plus 10 times the latest annual production. Gas was converted to oil equivalence at 6,000 ft^3/bbl. The totals so derived were compared with the last reserves report of the American Petroleum Institute, American Gas Association, and Canadian Petroleum Association (1980).

From earliest production through 1979, the above report (called the Blue Book) showed 128.0 billion BOE of natural gas and 147.8 billion BOE of oil, a total of 275.8 billion BOE. The PDS showed 152 billion BOE of oil plus associated gas and 79.6 billion BOE of nonassociated gas, for a total of 231.6 billion BOE, or 84% of the total shown in the Blue Book. For nonassociated gas alone, the PDS gives 88% of that shown in the Blue Book. Most of the discrepancy between the totals relates to the natural gas figures. PDS data are scant for most fields in Appalachia. Cumulative production data are lacking for many fields, as are data on natural gas liquids (NGL) production where the liquids are stripped in plants. Because we worked entirely from the PDS file, we have grossly understated such fields as Prudhoe Bay, which have large reserves and very small production. We also may have used overly conservative production-decline factors.

Figure 15 gives the total number of oil fields in the file by year of discovery; Figure 16 shows, by year of discovery, the total fields having ultimate recoveries of 10 million BOE; and Figure 17 shows, also by year of discovery, the total fields with ultimate recoveries less than 1 million BOE. The oil fields include associated/dissolved gas. Figures 18-20 similarly show numbers of nonassociated gas discoveries by year of discovery. The difficulty of discerning differences in the histograms is not surprising. Of a total of 15,519 gas discoveries, 14,414, or almost 93%, are smaller than 10 million BOE. Of 26,325 oil fields, 24,874, or 94.5%, are small. But what of ultimate recovery? The total recovery for nonassociated gas fields is 82.1 billion BOE, of which only 11.9 billion BOE, or 14.5%, is in small fields. With respect to oil plus associated gas, ultimate recovery is 153.6 billion BOE; only 19.2 billion BOE, or 12.5%, is in small fields.

Such data clearly suggest the magnitude of the job of creating production capacity to meet even 1984 demand if we continue to rely on small fields. The important considerations are that these small fields are numerous, oil and gas production from them is far less capital-intensive than an equivalent production of synthetic fuels, and occasionally they grow into large fields, though rarely into giants.

DEVELOPMENT FACTORS

Although a deliberate search for small oil and gas fields is generally not made, such fields more often resulted from exploration in 1984. The potential resource contribution of small fields depends on their economic and technological exploitability. Factors affecting this exploitability were described by Meyer (1977), and they hold true today, amplified by more recent developments in both economics and technology.

Prior Investment

In many areas, small fields have been discovered that are only marginally economic but that are accessible enough to be produced in an effort to recover drilling costs and to enhance the operator's crude oil or gas supply. Even more important are marginal wells in fields that have been in a long decline, particularly if an increase in price enables production to continue beyond the previous cutoff point (economic limit rate) on the decline curve. Stripper well production is an excellent example.

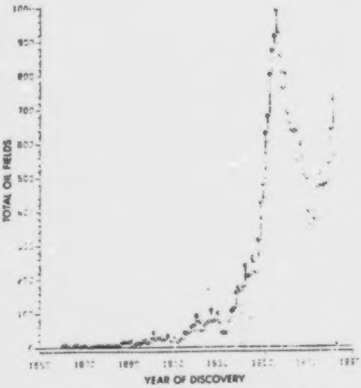

Figure 15—Total number of U.S. oil fields by year of discovery, 1850-1982. Data are from University of Oklahoma Petroleum Data System.

Innovative Technology

Many small oil reservoirs contain dissolved gas, which may be a factor in the economic viability of a field. Sly (1974) described a compressor that operates off the pumping unit of an oil well and enables capture of the otherwise vented or flared gas. When the gas/oil ratio is high, the gas is an important increment to the energy supply and thus to the profit of the well. Al-Khatib (1984) described a similar approach to improving oil and gas production through use of a beam-mounted gas compressor. Its purpose is to draw gas from the casing side of an oil well, reducing pressure on the formation face and allowing additional oil to enter the well bore.

Transportation Infrastructure

Very large discoveries in remote places or hostile environments, or worst of all, both, may justify building a transportation system. In northern Alaska, an oil pipeline has been built, although a gas pipeline has yet to be laid. Had not at least one field been a supergiant, exploitation would not have been feasible. In the lower 48 states, nearly every place is accessible to pipelines or trucks. Thus, very small oil fields are exploitable today. Even remote small gas fields are being developed, and the gas is transported by truck (Burns, 1982) as compressed natural gas (CNG). This transportation may be more economical than well-site electricity generation or conversion of gas to methanol, especially at flow rates of less than 10 mmcf/day, where pipelines are unavailable.

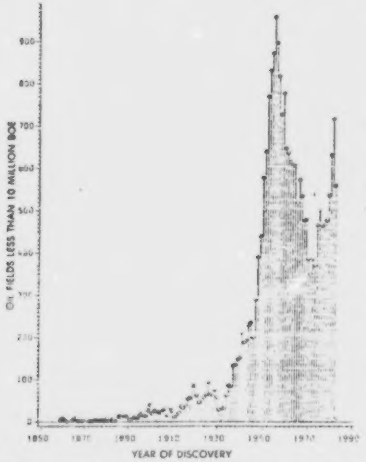

Figure 16—Number of U.S. oil fields less than 10 million bbl of ultimately recoverable oil equivalent, by year of discovery, 1850-1982. Data are from University of Oklahoma Petroleum Data System.

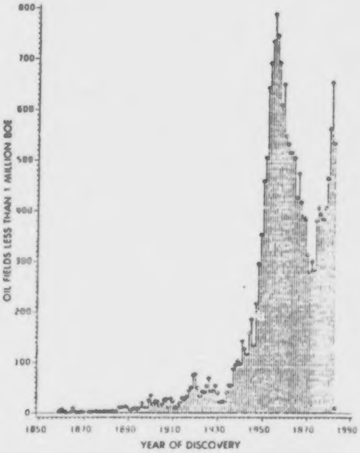

Figure 17—Number of U.S. oil fields less than 1 million bbl of ultimately recoverable oil equivalent, by year of discovery, 1850-1981. Data are from University of Oklahoma Petroleum Data System.

Offshore Fields

In offshore areas, small fields historically have been the least likely to make an important contribution to supply. According to Lewin and Associates (1976), a 10-million-bbl field was producible in water depths of as much as 100 ft at 1976 prices, at an 8% discounted-cash-flow (DCF) rate of return. In greater water depths and at higher DCF rates of return, small fields were unfeasible economically because of the high front-end capital requirements. Therefore, 10 million bbl of recoverable reserves appeared to be the offshore limiting factor; eliminating bonuses, royalties, and taxes might have reduced this factor to 5 million bbl.

Interestingly, the Shell International Petroleum Company (Vielvoye, 1982) in 1982 was producing the 10-million-bbl Tazerka field off Tunisia, in water depths of 459 to 721 ft. The field is being exploited using a floating production and storage unit, and the capital cost is estimated at $9,000/bbl. In many other places small fields may be developed, but they must be in areas that are not "high cost." Thus, in Nigeria, Egypt, and Indonesia, as well as in much of the United States, such fields might be producible, but not in the North Sea. Hollyer and Fowler (1980) offered eight alternatives for disposing of marginal offshore gas, the margin usually relating to the environment in which the field occurs: (1) flare, (2) plug and abandon, (3) reinject into the reservoir, (4) gather into a pipeline, (5) mechanically process as liquefied natural gas, (6) generate electricity, (7) chemically process into synthesis gas, or (8) transport as CNG. If the reserves are small and the required transportation distance long, for example 15 mi for reserves of 8 bcf, then barging as CNG at a cost of $1.191/mcf is more cost effective than pipelining at a cost of $2.749/mcf. Under other conditions—for example, in the offshore area of a developing country—conversion to a chemical product such as urea can be effective. Hatley (1980) described production of two small fields from 2 four-pile well jackets that included all of the necessary processing equipment. The processed oil was stored in a tanker converted to a storage vessel. The key to the economic success of this venture was the rapidity with which the exploration operation was designed and constructed. Beare and Williams (1982) also described the use of converted tankers as integrated floating production, storage, and offloading (FPSO) facilities. These permit the exploitation of small, deep-water fields far offshore. As a field is depleted, the FPSO facility can be moved to a new site easily and quickly.

Offshore, of course, the transportation situation is comparable with that of many places onshore. Small-field discoveries have come on stream after major discoveries led to establishing the necessary infrastructure. This has been true in the Gulf of Mexico and also in the North Sea. Experience in the North Sea is especially instructive. Shell and Esso have proposed to develop jointly 5 small fields with combined reserves of 220 million bbl of oil and 600 bcf of gas. A

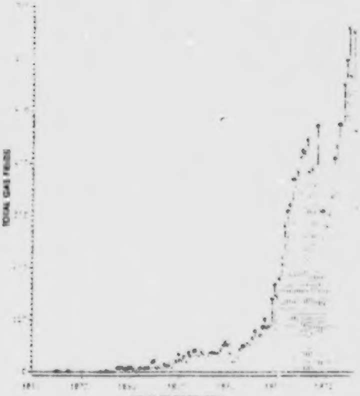

Figure 18—Total number of U.S. gas fields by year of discovery, 1850-1982. Data are from University of Oklahoma Petroleum Data System.

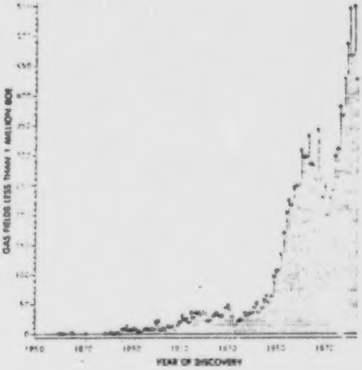

Figure 20—Number of U.S. gas fields less than 1 million bbl of ultimately recoverable oil equivalent, by year of discovery, 1850-1981. Data are from University of Oklahoma Petroleum Data System.

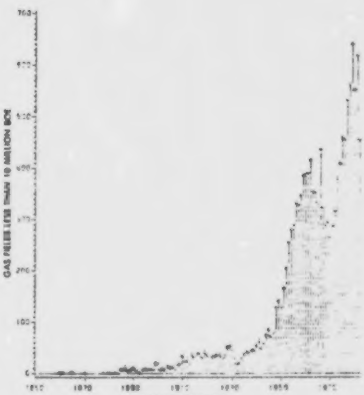

Figure 19—Number of U.S. gas fields less than 10 million bbl of ultimately recoverable oil equivalent, by year of discovery, 1850-1982. Data are from University of Oklahoma Petroleum Data System.

main processing platform would be used, and the gas line would be tied into a nearby existing trunk line; the fate of the oil is under study (*Oil & Gas Journal*, 1985). More innovative is a proposal by British Petroleum to use a 75,000-ton combined mobile rig and tanker to exploit fields otherwise too small to drill (*Washington Post*, 1984). Britoil has announced plans to develop Deveron field, with reserves of only 14 million bbl, through a satellite well controlled from the nearby Thistle field (Cross, 1984).

Enhanced Oil Recovery

If a 10-million-bbl field represents 30 million bbl of original oil in place (with 33% recovery), then an attractive amount of oil in place remains as a target for enhanced oil recovery (EOR). Because most EOR projects are aimed at large fields and because special reservoir characteristics are required for these methods to succeed, the net contribution from the smaller deposits has not been estimated. However, most EOR methods, particularly thermal recovery, can be applied to small deposits where proper reservoir conditions exist. Economic incentives would have to be large enough to outweigh the added EOR costs for compressors for steam-drive operations, carbon dioxide gas for CO_2 drive, and chemicals for surfactant-polymer and polymer-waterflood drives. Lewin and Associates (1976) described the dimensions of production units for five EOR methods (Table 3).

REVENUES AND SMALL FIELDS

Megill (1984) described the long-term relationship between petroleum industry net revenue and the numbers of

Table 3. Required Dimensions for Five EOR Projects*

Method	Acres	Number of Wells	
		Production	Injection
Steam drive	2.5	1	0.8
In-situ combustion	20	1	0.3
CO_2 miscible	40	1	0.8
Surfactant/polymer	5	1	0.8
Polymer	40	1	0.5

*From Lewin and Associates (1976)

new-field wildcats drilled. The number of such wells has declined steadily, from more than 1,000 in 1956 to fewer than 100 in 1981 per billion dollars of net revenue. He attributed this decline to such factors as increased drilling costs, OCS lease bonuses, and expensive frontier drilling. When extrapolated, such a trend in exploration bodes ill for the future and would be particularly stultifying to activity should it prove correct that the number of large fields remaining to be found will continue to decrease.

SUMMARY AND CONCLUSIONS

1. In the future, additions to reserves of oil and gas from conventional sources, including heavy oil and tight gas sands, will fail to do more than approximate production levels and probably will continue to fall short.

2. Stripper wells will continue to make up a substantial proportion of oil production.

3. Over the period 1935-1972, oil and gas prices rose gradually, showing no important perturbations resulting from depression, war, stable peace, unstable peace, or recession. For the same period, drilling activity fluctuated widely, and volumetric production was related to stable and moderate price. After 1972, oil and gas prices rose dramatically, tracked by drilling activity. However, exploratory drilling barely equaled the previous high of 1958, whereas oil and gas well development drilling have far exceeded previous high points. Clearly, the price part of cash flow rather than resource availability now drives drilling activity.

4. Exploratory drilling has tended to follow the lead of seismic activity, but this lead time has nearly disappeared. From 1972 until 1981, seismic activity and new-field wildcat drilling rose to a peak, then fell in 1982. Total exploratory drilling peaked a year later (1982) and fell in 1983. Seismic activity and total exploratory drilling closely approximated post-1945 levels in 1981, but new-field wildcatting fell short.

5. Recently, the proportion of exploratory drilling represented by new-field wildcats has fallen sharply because of the preponderance of marginal discovery sizes. Emphasis has shifted to deep-pool and new-pool tests. Interest is also increasing in shallow-pool tests.

6. Of all exploratory well categories, shallow-pool tests are the safest and are the only category with success greater than 50%. New-pool tests and outposts are more than 40% successful, but the success of deep-pool tests has declined from a high of 50% in 1974 to about 25% in 1982. New-field wildcatting is improving steadily and had a success level of nearly 20% in 1982.

7. Despite this steady improvement in new-field wildcatting and the drilling level being near the historic high, the quality of discoveries is decreasing. The number of discoveries greater than 10 million BOE is gradually declining, but it appears unrelated to other statistical series. The number of discovered small fields, 1-10 million BOE, rose for many years but has declined seriously from 1977 through 1982. Only the very small fields, less than 1 million BOE, are being found in large numbers.

8. A more useful measure of drilling activity than active rig count is rig quality. Type I rigs are good to depths of about 4,000 ft, Type II to about 10,000 ft, and Type III below 10,000 ft. Depth capabilities differ somewhat from province to province. In actual numbers, most wells are drilled by Type II rigs. However, the proportion drilled by Type I rigs is rapidly increasing. The proportion of wells drilled by Type III rigs remains steady at about 10%, but the Type III rigs account for about 25% of the footage, whereas the Type I rigs, making more than 35% of the holes, account for only about 18% of the footage.

9. Since 1981, rig and drilling efficiencies have rocketed upward in response to recession and to weakening prices.

10. Companies may be grouped by size, in terms of lease revenues, as the largest 8, 16, 50, 100, and 200; all others, as many as 18,000 companies, are considered together. The first 200 companies each have assets of more than $40 million. These 200 drill 30% of the wells and 44% of the footage, yet make 83% of drilling expenditures. Obviously, they drill the most difficult wells.

11. In 1978, the large companies each spent at least $1.70 on drilling production wells for each $1.00 on exploratory holes, whereas the smaller companies spent no more than $1.05 on production wells for each $1.00 on exploratory holes. However, in 1982, the larger companies spent little more on production than on exploratory wells, whereas the other companies' expenditures for production greatly exceeded that for exploration. This difference in expenditures suggests that the small companies are taking a more conservative position today, whereas the large companies are aggressively seeking new deposits in costly environments.

12. The largest 20 companies in the *Oil & Gas Journal* (1983) list accounted for 18 of 23 Class A oil and gas fields, 20 of 34 Class B, 52 of 124 Class C, and 266 of 1,323 Class D between 1966 and 1982. These 20 companies now account for 60% of the large and 20% of the small fields.

13. In 1982 in Alaska, the average cost of a dry hole onshore was $11 million and, offshore, $17.5 million. In 1982 in the lower 48 states, the average cost onshore was $0.5 million and, offshore, $4.9 million. Thus, all of Alaska and the offshore areas of the lower 48 states are the domain of the large company, as indicated by the drilling expenditures comparison. The lower 48 states, except for the very deep wells, are the domain of the small companies, a domain in which large and small companies compete almost equally, but with the greatest amount of activity being shown by small companies. In the lower 48 states, few large fields are found.

14. A large resource base remains, mostly in numerous very small fields. Through 1979, almost 93% of the known gas fields and 94.5% of the known oil fields found were

small, and 75% of the gas and 77% of the oil fields were very small. The small oil fields contain only 12.5% of the ultimately recoverable resource and small gas fields only 14.5%; the very small fields yield 2.4% of the gas and 2.3% of the oil.

15. Advances in technology will permit more small and very small oil and gas fields to be exploited, abetted by a lowering of economic limits through higher prices. Such advances may be seen in innovative technologies for producing small oil fields offshore by means of floating production and storage units, and for producing small gas fields by transporting CNG by barge or truck. Furthermore, in most places where small fields are being exploited, the regional production is mature, and an elaborate transportation network is already in place.

16. Small fields are commonly less capital intensive than equivalent synthetic-fuel plants, they are numerous in every geologic producing province, and they are relatively easy and inexpensive to find and place on production. Small fields are, therefore, beneficial to the energy economy of any nation.

REFERENCES CITED

Al-Khatib, A. M., 1984, Improving oil and gas production with the beam-mounted gas compressor: Journal of Petroleum Technology, v. 36, p. 276-280.

American Petroleum Institute, American Gas Association, and Canadian Petroleum Association, 1980, Reserves of crude oil, natural gas liquids, and natural gas in the United States and Canada as of December 31, 1979: v. 34, 253 p.

Beare, A. J., and L. M. Williams, 1982, Converted tanker makes small-field production practical: World Oil, v. 195, no. 5, p. 169-170.

Burns, J. M., 1982, A natural gas transportation system for wells with no pipeline connection: Journal of Petroleum Technology, v. 34, p. 2941-2946.

Cross, M., 1984, Small is profitable in the North Sea: New Scientist, v. 104, p. 12-13.

DeGolyer, E. L., and D. MacNaughton, 1983, Twentieth century petroleum statistics 1983: Dallas, DeGolyer and MacNaughton, 126 p.

Drew, L. J., J. H. Schuenemeyer, and W. J. Bawiec, 1982, Estimation of the future rates of oil and gas discoveries in the western Gulf of Mexico: USGS Professional Paper 1252, 76 p.

Hatley, A. G., 1980, Offshore oil field put onstream in 18 months: World Oil, v. 191, no. 7, p. 43-47.

Hollyer, R. S., and D. W. Fowler, 1980, How to economically recover marginal offshore gas: World Oil, v. 191, no. 1, p. 79-85.

Interagency Oil and Gas Supply Project, 1980, Future supply of oil and gas from the Permian of west Texas and southeastern New Mexico: USGS Circular 828, 57 p.

Johnston, R. R., 1983, North American drilling activity in 1982: AAPG Bulletin, v. 67, p. 1495-1528.

Lewin and Associates, 1976, The potential and economics of enhanced oil recovery: Final report proposed for the Federal Energy Administration under contract No. 60-03-50222-000.

Megill, R. E., 1984, Exploration outlook: is the past a key to the future?: World Oil, v. 198, no. 7, p. 159-168.

Meyer, R. F., 1966, Geology of Pennsylvanian and Wolfcampian rocks in southeast New Mexico: New Mexico Institute of Mining and Technology Memoir 17, 123 p.

——— 1977, The potential contribution of small oil and gas deposits, *in* R. F. Meyer, ed., The future supply of nature-made petroleum and gas: New York, Pergamon Press, p. 295-304.

——— P. A. Fulton, L. J. Drew, D. R. Root, and G. Grender, 1983, The resource potential of small oil and gas fields, *in* R. F. Meyer and J. C. Olson, eds., The future of small energy resources: New York, McGraw-Hill, p. 9-29.

Mushimov, R. Kh., and N. G. Akhmedzyanov, 1975, Outlining and preparation of small fields for production: Geologiya Neft i Gaza, no. 1, p. 34-39 (in Russian).

Nehring, R., 1981, The discovery of significant oil and gas fields in the United States: Santa Monica, California, Rand Corporation, 236 p.

Oil & Gas Journal, 1983, OGJ Report, the OGJ 400: v. 81 (October 17), p. 75-104.

——— 1984, Needed oil finding rate seen straining Australia: v. 82 (February 20), p. 36-37.

——— 1985, Shell-Esso may tap small North Sea oil fields: v. 83 (May 20), p. 35.

Pankonien, L. J., 1984, What's happening in the United States: World Oil, v. 198, no. 5, p. 25.

Parker, M. A., 1984, Asia/Pacific oil flow up, exploration down: Oil & Gas Journal, v. 82 (August 27), p. 55-62.

Sly, G., Jr., 1974, How to boost gas yield from marginal oil wells: Petroleum Engineer, v. 46, p. 64-68.

Smith International, Inc., 1974-1983, Smith International, Inc., Drilling Activity Correlation (Sii-DAC): Newport Beach, California, issued quarterly.

U.S. Bureau of the Census, 1980, Annual survey of oil and gas, 1978: U.S. Bureau of the Census Current Industrial Reports Series MA-13K (78)-1, 47 p.

——— 1984, Annual survey of oil and gas, 1982: U.S. Bureau of the Census Current Industrial Reports Series MA-13K (82)-1, 31 p.

U.S. Energy Information Administration, 1983, U.S. crude oil, natural gas, and natural gas liquids reserves, 1982 annual report: U.S. Energy Information Administration DOE/EIA-0216(82), 38 p.

Vielvoye, R., 1982, The Shell group's latest look at: cost of developing new world crude supplies: Oil & Gas Journal, v. 80 (August 16), p. 91-93.

Washington Post, 1984, BP orders new ship to tap seabed wells: (August 11).

Mr. **Sharp**. Thank you, Mr. Deas, and you are accompanied by Mr. Goodrich. We are happy to have both of you here today.

Mr. Hughey.

STATEMENT OF GAYLORD T. HUGHEY, JR.

Mr. **Hughey**. Thank you, Mr. Chairman. I am Gaylord Hughey of Tyler, TX. I'm a member of a two-man law firm. We represent approximately 150 independent oil and gas producers, the great majority of which drill less than 5 wells per year.

I know that members of this panel, as well as subsequent panels, will be much more qualified to give you statistics as far as the effects of the tax bill, but I think maybe I might be qualified to speak to what is happening on the streets of east Texas and what people are saying about the activities of the U.S. Congress in tax reform.

What could a small-town gas and oil attorney tell this committee that they have not already heard? It would not be the hardships of declining crude oil and natural gas prices, not the lack of investment capital, complex State and Federal laws and regulations which impede progress in development, or uncertainties and skepticisms felt by each producer.

It would be, however, the frustration voiced by local oil and gas producers that must make a living in tough times and who support thousands of jobs and families in Smith County, TX.

The term "oil and gas producer" may now be a misnomer and should be replaced with a more appropriate designation of "oil and gas survivor." The game plan of the survivor is no longer the one of the oil and gas producer, which once focused on development and now focuses on a nonproductive maintenance status.

The questions are no longer: Where is our next prospect going to be, or how long will it take to get the rig, but how can we keep the bank from taking over? How much longer can we take it, and how many do we have to lay off now?

The inherent risks of the oil and gas industry are being magnified by additional uncertainties in Federal tax reform and the revolutionary natural gas transportation rule promulgated by FERC under order 436.

Concerns over what avenues this Congress will take on tax reform cannot be overemphasized. The phasing out of the depletion allowance, IDC capitalization, and deletion of the tax credits could have been more easily absorbed during the good times.

If Congress deems it necessary to implement oil and gas tax reform, it should be undertaken at a different time and not at a time when these incentives are most needed. The reasons behind the oil and gas tax incentives can be justified and defended better today than in recent memory. We need these incentives to assure some form of domestic energy development activity and to help prevent the dismantling of the oil and gas industry, which is so vital to our national security.

If Congress undertakes tax reform after due consideration of its impact upon a struggling industry, it is mandated that it be clear, concise, and subject to as little interpretation as possible, to prevent the catastrophes we have seen under some of the previous energy legislation.

Tax simplification, in my opinion, is a diversion to the real problems that we face in the form of overwhelming deficits. There is a dual standard being asserted to the detriment of a once thriving oil and gas industry. The Government, before it gets its house in order, expects an industry which has had its house in order to further subsidize its programs. It is a hollow, diversionary cry that is being heard from Washington that has neither taken the time nor the resources to deal with the issue of a forever ballooning budget and deficit.

How can a country based on free enterprise exist with a government which ignores the economic values expected of its own businesses? Let Congress get its house in order before they destroy an institution which is a bastion of free enterprise and is capable of accomplishing the goal of energy independence so vital to this country's national security.

It will create additional foreign dependency. Capital borrowed by oil and gas producers has been based on false economics which have been pinned up by Federal legislation designed on false premises. Producers are economically crippled, and tax reform is the gun to the producer's head. The proposed tax reform is congressionally mandated failure for the energy industry.

While balancing the budget, Congress would be well-advised to add enough money to fill the strategic petroleum reserve. We will undoubtedly have to call upon these reserves in the future to service this country's demands beyond the supply capabilities of traditional domestic oil and gas production. It may be our only hedge against the Saudis' forthcoming stranglehold on our national economy.

The industry is fighting a losing battle. I think we recognize it, just in terms of the numbers. There are approximately 15,000 independent oil and gas producers, compared with over 2 million consumers. There are more nonproducing States than there are producing States. It will take a strong and united Congress to deal with the energy issues before it, the odds being overwhelming against any type of meaningful domestic energy policy.

At the time supply shortages are realized, there is no doubt that the consuming public will scream at Congress, scream at the pipelines, and scream at the producers for their failure to meet their needs. Congress, in turn, will scream at the pipelines for lack of supplies, who in turn will blame the producers, which will be the ultimate whipping boy. The producer gets kicked while he's up, in the form windfall profit taxes and additional Federal pricing regulation, and is kicked while he is down in the guise of tax reform. Soon they will be kicking an industry that will have to be rebuilt, not from private-sector initiative, but with Federal funds, due to the magnitude of the task.

The energy shortage is predictable. Each one of you must realize that domestic supplies will not keep up with demand—it's a matter of time before the supply and demand curves cross. There seems to be an inevitable conflict between the electability of a Congressman and a Congressman being able to make the foresighted hard decisions in developing a national energy policy which will be required which must take into consideration the tax incentives necessary for development.

There are two ways to approach improving the bottom line. One is increasing revenue and the other is cutting costs. Tax simplification neither addresses the increase of revenue nor cuts costs.

There will be survivors, regardless of the tax reform, but they will be much larger, probably diversified and less efficient in finding, developing, and producing the oil and gas reserves this country must have and that its consuming public demands.

Mr. SHARP. Thank you very much, Mr. Hughey.

Mr. SHARP. We now recognize the members of our panel for questions.

The gentleman from Oklahoma, Mr. Synar, just stepped out. He passes right now.

The gentleman from Texas, Mr. Fields, is recognized for 5 minutes.

Mr. FIELDS. Thank you, Mr. Chairman.

I have one of my best friends on the panel today, Mr. Hughey, and just for the chairman's edification, Mr. Hughey went to Baylor Law School with me, graduated with high honors, went to the University of Texas and got a master of law in oil and gas, so hopefully he is competent to testify before us today.

Mr. Hughey, I want to focus on a couple of things, if I could. First of all, let me ask, how many producers do you represent in east Texas?

Mr. HUGHEY. Approximately 125 to 150 independent oil and gas producers.

Mr. FIELDS. Is there any way to calculate what their total production is, either in barrels of oil or thousand cubic feet?

Mr. HUGHEY. I'm sure there is a way. I have not taken the time to do it. But literally, I think they would represent billions of cubic feet of deliverability in terms of natural gas on a daily basis, and certainly thousands of barrels of oil each day.

Mr. FIELDS. In your testimony, you refer to oil and gas survivors being the best nomenclature for the people you represent.

What has happened to those people in the last 4 years?

Mr. HUGHEY. I think we have to go over the last 4 weeks.

I can give you some idea of a few of the things that they have been faced with. We have had one major interstate utility that took a 30-percent cut in its price that it was paying for natural gas over a week's time. Natural gas has been shut off entirely at the wellhead as a result of the new order 436, and frankly, as a result of that order, there is no way out in many instances under the current regulatory scheme of things to move gas. And that means no cash-flow in some instances to some producers.

It is a terrible situation that some of these fellows are faced with.

We also are having—we were told by a major interstate pipeline last week that we have had difficulty dealing with and getting gas developed over the last 12 months moving through their system. They have absolutely refused to release the gas or market it to an alternative marketing situation and reserve those dedicate reserves for their system, much to the detriment of the producer, and there will be no development taking place as a result of the interstate.

Mr. FIELDS. That leads to my next question. On page 2 of your statement, you say that the inherent risks of the oil and gas industry are being magnified by additional uncertainties, and Federal

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tax reform and the revolutionary natural gas transportation rules promulgated by FERC under order 436.

I want to focus on the word "uncertainty." When I have had the opportunity to speak to members of the Ways and Means Committee, I have talked about what I perceive to be the effect of that uncertainty on people's willingness to go out and risk capital.

Would you want to magnify that uncertainty to a greater extent?

Mr. HUGHEY. You have inherent uncertainties in the oil and gas industry, development and exploration. When they are coupled with all of the other issues being faced by small independent oil and gas producers, the tax reform in itself, just being introduced, I think drives away investment tax dollars that otherwise would be available for development and exploration.

It is imperative that Congress, when a bill is introduced—I know it is not part of the system—that it be expedited. In times like we have today, we have got to have a clear show from Congress as far as what is going to happen.

Mr. FIELDS. Let me also ask you to comment on the Energy Information Administration's study. Mr. Deas commented on this just a moment ago. Chairman Dingell requested that Administration to study the impact of the administration's proposed tax measures, and one of the major conclusions was that there would be no adverse effect on oil and gas drilling, except for a few projects undertaken by small independent companies who are heavily dependent on the percentage depletion allowance for earnings, and it says basically that there would be no net impact on oil and gas production.

Do you agree or disagree with that?

Mr. HUGHEY. I think time will tell the story. The feedback I have gotten from my clients, and just the lack of activity in terms of drillsites being prepared within the firm, would indicate that that is not the case.

Mr. FIELDS. One last question, Mr. Chairman.

If your producers were told that there is an energy crisis today, and that they needed to respond to this national emergency, what type of timeframe are we looking for in response to that situation? In other words, how long would it take actually to put oil in a tanktruck or gas in a pipeline?

Mr. HUGHEY. That is a very difficult situation, and it depends on the timeframe and where we are in terms of the energy recession that we're in. If it is today, it would be certainly faster than what I would anticipate 6 months from now.

Mr. FIELDS. Thank you, Mr. Chairman.

Mr. SHARP. The chairman would respond to the gentleman from Texas and other members of our panel.

Next week, on Wednesday and Thursday, we will have hearings on the FERC rule related to the transportation of natural gas. I know that many members of this subcommittee are extremely concerned by the response of the interstate pipelines to that rule and their failure to continue to transport gas, which is affecting both the consumer and the producer of natural gas.

We had hoped to have that hearing earlier, but we are having it at the earliest possible date that would allow people to assess its impact on the natural gas industry. I realize that it is very relevant to many of the folks here today.

The Chair now recognizes the gentleman from Texas, Mr. Hall.

Mr. HALL. Thank you, Mr. Chairman.

Because my friend and colleague, Congressman Fields, initiated a discussion with Gaylord Hughey, I will pick up there, and I want to ask you a question or two, Gaylord.

Jack Fields was nice enough not to brag that Baylor was head of the Southwest Conference at this time and in the Top Ten. I thought surely he would mention that.

Mr. FIELDS. If the gentleman would yield, I would be glad to point that out.

Mr. HALL. We've already yielded to you, being that you're from Texas.

And also I might point out that Gaylord Hughey, as a very bright, affable, young attorney, is chairman of the largest county of the Republican Party in my district, so I am honored. I will be nice to him, and I must say he is a friend of mine and a young man that I admire very much.

Let me ask you this, Gaylord: Do you have a general practice also, or do you just——

Mr. HUGHEY. I cannot identify my practice as a general practice.

Mr. HALL. Let me ask you this: Do you represent any tool pushers or roughnecks?

Mr. HUGHEY. I represent several large well services. You bet.

Mr. HALL. I am asking about the devastation of, not the Ways and Means Committee passing the regulation that withdraws the intangible drilling costs, but just the mere threat of it. What effect does that have on employment of the little people in Smith County and northeast Texas and other areas where production exists?

Mr. HUGHEY. Again, it has driven away the investment dollars that otherwise would be there, that people could develop their oil and gas properties with, and I think they are in a maintenance status versus a progrowth status in the energy industry.

Mr. HALL. It affects unemployment?

Mr. HUGHEY. You bet.

Mr. HALL. The guys who had good jobs and were supporting their families are in unemployment lines now, and you, yourself, have observed the stacked rigs for Delta Drilling and others, have you not?

Mr. HUGHEY. Cannot ignore it.

Mr. HALL. They are there for everybody to see.

Mr. HUGHEY. You bet.

Mr. HALL. Thank you, Mr. Hughey.

Let me ask Dr. Cargill—and I'm not going to tell Mr. Bob that you said he was getting old; I'm sure that report will get to him some way.

It is my understanding that he is doing your job and his today while you're up here. And looking at the financial statements, I notice that while income is going down on your chart, drilling activity seems to be increasing. Am I seeing something that is not there?

Mr. CARGILL. No, you're seeing what's there. I've gone crazy.

Mr. HALL. What is the explanation for that?

Mr. CARGILL. Well, probably the explanation for that is the fact that I am still a fuzzy-headed academic, in my father's eyes, and he and I don't always talk to each other and tell each other what we're doing, so he's gone out and committed to invest in wells and not told me about it, and I have done the same thing. And unfortunately, we over-committed ourselves, and you see that we're in bad shape.

Mr. HALL. I notice that income is going down, and drilling activity is increasing. Is that peculiar to your operation, or is that overall?

Mr. CARGILL. That the income is going down is not peculiar to our situation, I suspect. I don't know what anybody else's drilling activity is. But he and I made an agreement back in the beginning of the year to only drill aces, straights, and cinches.

Mr. HALL. And that reduces your activity considerably.

Mr. CARGILL. Yes, but the problem is, we are involved in 10 wells this year, 2 of which have not yet been begun, and 7 of those are wildcats which—that is not an ace or a straight or a cinch, either one. We've already drilled two dry holes this year.

Mr. HALL. Let me ask you briefly, Dr. Cargill, to talk—I have asked Gaylord here to tell us about the little people in the oil and gas industry. It is not all like "Dallas" and like the television show, is it?

Mr. CARGILL. Hardly.

Mr. HALL. You have many royalty owners that you deal with, do you not?

Mr. CARGILL. Yes.

Mr. HALL. Are they all big people? Describe for the record and for the committee some of the royalty owners and the effect of the impact that this tax reform proposal would have on them.

Mr. CARGILL. We have responsibility for distributing royalty revenues from 3 town-site gas units in which we have approximately 2,000 royalty owners. These royalty owners are typically owners of a single residential lot—in the small town of Longview, a lot being half an acre—and there may be a family—since these leases were taken 30 years ago, they have gone through 2 or 3 generations; instead of mom and pop, it is now grandchildren—of approximately 700 royalty owners in one of those units, over 500 of them have a decimal interest that has got three or four zeroes before there is a number.

These people are typically not well-to-do. The little money they get from us is not enough for them to do very much. They get $0 or $50 a year, and they are not really sophisticated in the ways of the oil business. They call me up practically everyday wanting to know why they haven't received a check this month, and the reason they have not received a check this month is because the pipeline company under which the gas wells are under contract said that "We may have a contract, but on the other hand, we cannot sell the gas, and we're not going to take it, and we're not going to pay for it."

And my response to that is, "Well, I would like to sue you, but that is not a good investment."

Mr. HALL. There is not that much money involved, but—it is not much to people like those of us in this room, but it is a lot of money to the little royalty owners that you encounter.

Mr. **Cargill**. I had the experience on Wednesday of a royalty owner calling me up and she said, "I have learned that the pipeline company paid you $9,000 in October. How much of that is mine?" And the answer was, "It is approximately $2." She said, "I want my check." I said, "We don't write checks for less than $15, because it costs me $10 to write you a check, and I'm going to keep it until your account mounts up to $15." And she is ready to sue me. I'm afraid I may have 2,000 of those before I get home.

Mr. **Hall**. Give her Gaylord Hughey's card here.

Mr. Chairman, I know my time is almost up, but I need to ask one last question.

Mr. **Sharp**. Go ahead.

Mr. **Hall**. I want to get a yes-or-no answer from everybody except the professor. I've never gotten a yes-or-no answer from a professor.

Mr. Rutledge Deas here has presented us with a statement that was not read into the record, but will be, and one of the statements on intangible drilling costs that Rutledge makes, and I agree with him on, is, quote: "If Congress abolishes this provision, the oil and gas industry, as we know it today, will be gone in 2 years."

I will begin at the end of the table. Do you agree with that?

Mr. **Singer**. I think there would be very, very few independents—small independent producers. And, Mr. Hall, I believe that would be devastating, not only for the group of us who fall in that category, but the interrelationship among producers would be such that a lot of the work that we do for the larger independents and the major companies, and a lot of the reserves that are discovered as a result of that relationship would never be discovered at all, even the larger reserves.

Mr. **Hall**. I'm trying to figure out what your answer is.

Mr. **Singer**. Yes, sir.

Mr. **Hall**. Thank you, sir.

Mr. **Frazer**. I'm not qualified to give you anything but a yes.

Mr. **Hall**. Dr. Cargill.

Mr. **Cargill**. Yes.

Mr. **Hall**. I'm amazed.

Rutledge, of course you agree with the statement you made?

Mr. **Deas**. I wrote the statement.

Mr. **Hall**. It was a very able presentation. I appreciate it.

Mr. Goodrich, you did not say anything, but you agree with it?

Mr. **Goodrich**. Yes.

Mr. **Hall**. And Gaylord?

Mr. **Hughey**. Yes.

Mr. **Hall**. And Dr. Cargill, you did not make these guys mad. The love to go vote.

Mr. **Sharp**. The Chair was just about to point that out. We have a vote occurring on the House floor. We are going to take a brief recess. We hope to start up quickly, as some of our members get back. Don't drift away too far. The electronic voting system in the House is broken. They have to call the roll, but we think we can get this started fairly quickly. If you will bear with us, we have further questions from other members of the subcommittee.

Mr. **Hall**. Is that another fallout of the bad bill in Ways and Means?

Mr. **Sharp**. I think there is a message in there somewhere.

[Brief recess.]

Mr. **Tauzin**. The committee will please come back to order. Chairman Sharp has asked that we reopen the hearing as soon as we can, with the explanation there is a failure in the voting machine apparatus on the floor of the House. There is a voice rollcall going on. That is the reason for the delay, but we will continue where we left off.

The Chair notices that his name is next in line, but that we have a new member of the subcommittee who just arrived, Mr. Richardson.

Would you like recognition at this time, Mr. Richardson?

Mr. **Richardson**. Yes, Mr. Chairman.

Mr. **Tauzin**. The Chair recognizes Mr. Richardson.

Mr. **Richardson**. Very briefly, I apologize for not being here earlier. I think these hearings are very timely. Not only do we need to know the tax implications of oil and gas for the tax bill, but in addition to that, I know that this subcommittee will also deal with the impact of FERC on many of the energy industry people.

In addition to that, of course, it is my hope that the committee somehow deals with the gas decontrol bill that I have offered along with Mr. Dannemeyer.

With that, Mr. Chairman, I would very much like to submit a statement for the record and listen to the witnesses. Mr. Pitts, who is here at my request, I think is on the second panel. I will do everything I can to be back and forth. I have a crowded schedule.

But thank you, Mr. Chairman, for recognizing me.

Mr. **Tauzin**. The gentleman's statement will be admitted in the record without objection.

[The prepared statement of Mr. Richardson follows:]

Statement of Hon. Bill Richardson

Thank you Mr. Chairman. I want to take this opportunity to thank you for scheduling this important hearing on the impact of various tax proposals impact on our oil, gas and coal industries. I am here today to listen and learn from industry representatives about the effects that recent activities have had on their industries.

Mr. Chairman, as you know, I represent the State of New Mexico which relies heavily on the oil and gas industry as a supplement to its economy. I am personally very concerned with the proposals which are before us.

It is clear to all who read the newspapers and trade journals what is happening within the domestic natural gas and crude oil exploration and production industries. Headlines tell the story of shut-in wells, idle rotary drilling rigs, idle seismic equipment, curtailment in capital expenditures, production decline projections and unemployed industry workers.

In my home State of New Mexico we have been well acquainted with the importance of a healthy domestic energy industry. In 1985, New Mexico received an estimated $981.664 million as a result of direct taxes and other direct revenues from oil and gas activities. That represents a decrease of $33.4 million from the 1984 total of slightly over $1 billion. Those revenues went directly toward funding our State's public education system. It is expected that due in large part to declining oil and gas production royalties on Federal lands in New Mexico that State lawmakers will have to consider a tax increase this year.

U.S. dependence on foreign oil sources is a practice which I am sure that none of us relish. Recent FERC rulings which I consider discriminatory against industrial end users of natural gas and independent producers, the decline in the price of oil and natural gas and the drop in the overall level of drilling have me concerned. These practices coupled with the various tax proposals to eliminate the percentage depletion deduction and the deduction for intangible drilling expenses only add to the problem in an adverse way.

Most of the proposals circulating in the Congress would adversely impact on the economies of producer States. The Third Congressional District that I represent depends heavily on jobs and revenues generated by the oil and gas industry. The tax provisions involving capital gains and depletion allowances would have a dramatic adverse impact on these industries in my State. My State has already suffered the effects from the decline of our domestic mining industry—we cannot afford to suffer the adverse effects from a depressed oil and gas industry.

I look forward to hearing from the many witnesses scheduled to testify before the subcommittee today. I am hopeful that today's hearing will be the start for future discussions between the Congress and industry representatives to work cooperatively in dealing with the tax reform issue. Thank you.

Mr. TAUZIN. I have been requested by Mr. Deas to put this document in the record by Richard Meyer and Mary Fleming. And without objection, that will be made part of the record of these proceedings. [See p. 875.]

Mr. TAUZIN. The Chair recognizes Mr. Shelby.

Mr. SHELBY. Thank you, Mr. Chairman.

First of all, Mr. Chairman, you probably noticed that Mr. Keith Frazer, who testified as part of the first panel, had to leave. I do appreciate the opportunity for his being here, and we appreciate his words.

We are all interested in the coal and gas aspects and the tax implications therefrom, but in Alabama we are also interested in the oil and gas, too, in addition to coal in the area. And like the gentleman from New Mexico said, he is pushing an oil and gas deregulation bill to try to get the Government off of you as much as we can.

I am a sponsor of that. I know a couple of years ago we tried to push that through. That would help some, too. But you are focusing in here, as I understand it, and I think the hearing is very wise, a wise one to be held at this time to point out the problems with the tax bill as far as the oil and gas and coal and other interests like that would be. I think it would be devastating, not just from what you have said, but other independent studies that have been made.

I appreciate all of you appearing here today, and I know that we are all watching what is happening in Ways and Means. It reminds me of a story that came out when I first went to the Alabama Legislature years ago, and there was a plaque on the wall which said, "No man's life, liberty, or property was safe while the Alabama Legislature was in session."

Well, that is true of the U.S. Congress now as far as not only this industry but a lot of the others. You do not know what is going to happen. But more than that, the Ways and Means Committee doesn't know what's going to happen day to day. You know, they take something away and then give part of it back the next day. You can see what is happening in the closed hearings.

We are going to be watching this bill not only for how it impacts on all the people in America, but especially from this committee's standpoint.

Thank you, Mr. Chairman.

Mr. TAUZIN. I thank the gentleman for his statement.

I might remind him that one of the witnesses privately told me that watching this tax debate and recognizing that most people indicate that it has about a 10-percent chance of success in the end with the bill reminds him of the NFL and the importance of the

NFL. Can you imagine how dangerous the streets would be if all those big fellows were walking around with nothing to do?

Congress is busy debating something that probably won't happen. So I guess that is some source of relief.

The Chair recognizes the gentleman from Texas, Mr. Bryant.

Mr. BRYANT. Thank you, Mr. Chairman. I am going to save my questions for the next panel so that we can keep proceeding. I hope that someone explained to the witnesses here that the machine broke down. The breakdown has been explained?

Mr. TAUZIN. Yes.

Mr. BRYANT. That's why we're having so much trouble getting our folks back.

I would like to make one observation before relinquishing my time. Without discussing the politics of this too much, I think it would be fair for some of the criticism here to be aimed at where the tax proposals that most everyone on this committee opposes originated, and that was not in Dan Rostenkowski's office or in the Congress, it was in the White House, where President Reagan sits.

Having given this bad idea—once given life, it is very difficult to stomp it out, even if you come back later on and decide that you did not like the idea the first time—you come up with Treasury II. I think it is fair for the origination of this idea to be described before we pass on, since I did not hear much about that the first time around.

I yield back the remainder of my time.

Mr. TAUZIN. The Chair recognizes himself for the appropriate time.

Mr. Deas, I want to thak you and Mr. Goodrich for coming to represent the interests of the Independent Producers in Louisiana, and all of you for presenting information that is going to be critical, I think, to Congress in some of these questions.

Mr. Cargill, one of the things you pointed out particularly in your chart that is absolutely alarming, if my calculations are correct, is that if the 12.5-percent decline in production that you indicate could occur with adverse changes in the Tax Code did occur, that instead of a 63-percent domestic mix, 37-percent foreign mix in import ratios, that by 1990 by your projections we would be looking at the reverse, 63-percent foreign dependency and a 37-percent domestic mix. That far exceeds the Energy Information Agency's projections of current import flows by at least 10 or 12 percent. I believe EIA estimated a 50-percent dependency by 1990 and not until 1995 a 62-percent.

What you are saying is that if Congress enacted adverse tax implications upon domestic oil and gas production, that we could be in a situation in 1990 worse than we were in the 1970's when the Arab oil embargo hit.

Mr. CARGILL. I think that's right. There are several numbers that one can use. If it is appropriate, I will explain some of the derivation of those numbers. It may take some time, and I do not want to take the committee's time to do that.

But I would just point out to you that EMBANK, which is a major Texas bank, uses 20 percent rather than 12.5 percent, and I have used 6 percent. I only started in 1987.

Mr. TAUZIN. Therefore, 20 percent decline if you just trace the line on the page further than the chart allows.

Mr. CARGILL. It would be off scale.

Mr. TAUZIN. In fact, Mr. Deas, in the prepared statement you presented to us, there are some interesting figures. You indicate that a combination of the loss of investor funds to the independent oil and gas community and the effect of loss of the depletion allowance would combine to produce a total effect of a reduction of 965 wells drilled in Louisiana out of the total expected of only about 1,600 or 57.3 percent reduction in drilling effort in the State as the combined effect of these changes in the Tax Code.

Is that a fairly accurate estimate? And how did you derive at that?

Mr. DEAS. That was done by the LSU energy study, study for energy, and they did a survey on it. Those surveys are difficult to quantify. But in my opinion, it may be low, because the one item that is never cranked into all of this is the intangible aspects of the decisionmaking process. Some people are going to quit because it is no longer attractive. So there is that aspect of the thing.

This is statistical. This just takes a response and what is estimated, but it is a fair estimate. It is certainly a fair estimate, and it may well be low.

Mr. TAUZIN. Mr. Hall from Texas alluded to it when he discussed with Mr. Hughey the losses in jobs in the related industries. Mr. Cargill referred to it when he talked about a $50 billion addition to the foreign-trade deficit. Most economists tell us there is about a 25,000 job-loss ratio to $1 billion of foreign-trade deficit.

If my caculations are right again, a $50 billion addition to the trade deficit as a result of lost jobs and less production, as you estimate, a 57-percent drop in wells drilled would equate to well over 1¼ million American jobs, again, lost in the U.S. economy, and, I take it, primarily in the oil-producing States.

Would anybody in their right mind sitting on Ways and Means vote for provisions that would have that kind of a devastating impact on the economy and jobs in the producer States.

Mr. DEAS. You limit it to the producing States. I will take it one step further. It's not a parochial problem. Let me point out—and I think there was a gentleman here from Ohio—Armco recently closed a pipe mill in Ohio and lost 1,200 jobs. And that pipe mill was closed for the simple reason that they cannot sell pipe oil fuel pipe.

Now, Ohio is a producing State, but it is not considered one of the major producing States. The ripple effect to the whole economy is there, and lack of supply. There seems to have been in the consumer movement only a direction of concerning themselves with price. But supply is a critical aspect of the thing. That's what we're talking about, the supply. And then I don't think that some of these studies ever take into account that the production declined because of new wells not coming on and reserves not being found. Therefore, production can precipitously go down faster than is anticipated.

There have been other comments. One of the Senators remarked that, "Don't worry about supply. Mexico and Canada have plenty of gas, and we get it from Mexico and Canada." Well, an interest-

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ing thing about Mexico is they will not sell us gas today at present prices.

Now, I don't know what Canada is going to do, and this is one again a trade balance problem, and the trade balance today is 50 percent of the oil and gas, which there are concerns about textiles and trade balances.

Mr. TAUZIN. One final point. I see the chairman is arriving again.

You make a point at the end of the prepared testimony that I think deserves some elaboration. The pure free-market philosophy teaches us that Government ought not to structure policy that directs decisionmaking in a free-market economy. Most of us are free-market-oriented people on this committee, and pure free-market philosophy would say don't structure Government policy to encourage a particular element of your economy and discourage another.

You make the point—and admittedly, you are in the independent oil and gas community, and so, therefore, the point is made, to some degree, I am sure, in a selfish vein, you want to make sure that you survive and that is understandable—but you make the point that there is something useful to the American economy to have an independent oil and gas sector, that the changes in the Tax Code and this survey, Ernst & Whitney survey indicates that it would affect that segment more than any other. The small producers would go first.

Mr. Hughey talked about it, that we would be left with larger, more diversified companies dedicated to producing oil and gas in America; therefore, we would end up with less and less of an independent oil and gas community, more and more of a major diversified oil and gas community.

You make the point that that may not be good for America, that it may be in the Nation's interest for Congress to structure its tax policy to encourage the survival of that independent element in America, not necessarily for the selfish interest of those who want to survive, which is understandable, but for the good of the country which must depend upon companies interested in making continued investments in domestic exploration of oil and gas as opposed to those companies that may have other interests or even worldwide concerns.

That is an interesting point. And one you make very strongly at the end. Would you amplify that just a second for the committee?

Mr. DEAS. It is not understood that the oil and gas producing industry is a matrix of large and small and inbetweens that do it all in diffeent ways. I do not operate in the State of Ohio. I do not operate in the State of New Mexico. And those do not operate in Louisiana. It has to do with how it all gets put together. And if you erode that, if you tear at that matrix, you are going to have an erosion of the whole system, and you cannot put it back together again because it is an ongoing process.

To put an oil and gas deal together. It starts in the mind of a geologist, and it may take 3 years to get it the point where you even think about getting a drilling rig. If you start tearing apart the whole infrastructure, you are going to destroy the industry.

Now, it is not important—and I think Mr. Cargill made this point—it is not important to this country as such that 10,000 independent oil operators stay in business, because they can do something else. But is that necessary and is that good for the United States? Because you are going to lose their ability to find oil and gas.

And I put in the record here an article in the AAPG, which is the role of the small oil and gas fields. It is written by a professor at the University of Oklahoma and a member of the USGS. So it is not self-serving; it does not come from the producing segment.

And that illustrates the independent finding of the million barrels or 2 million barrels which is critical, because 8,000 people do it and look for it. We do things that the majors—first of all, they don't find it attractive from an investment point of view, but they really don't know to do it because it is a highly decentralized function.

And in that regard, I would like to offer to this committee, to its staff, to any members of your staff, that our offices are open to you. If you want to send anyone to see us, they are open in our ways of operation. My books are open, and you can come and look and see what we do. This might help because there is a general misunderstanding of how we function within the overall view of the producing industry.

So, in passing, I want to say to Congressman Bryant that what you pointed out to us is well recognized.

Mr. HALL. Would the gentleman yield?

Mr. TAUZIN. Yes.

Mr. HALL. Most of the 10,000 you allude to can do something else, as Dr. Cargill indicated. But you are professional people. You are successful people. You can do something else of your choice.

But I go back once again to the roughneck and the tool pusher. He can do something else, too, but he has got to buy school clothes in September—and usually borrow money for it. He does not have a choice as to what he does. He goes to the employment office, doesn't he?

Mr. DEAS. This is a national problem. It is not a parochial problem. And until the Nation and the Congress comes to that conclusion, the whole industry is in trouble.

Mr. HALL. That is the reason we need to get this lousy bill behind us.

Mr. DEAS. Or any bill that affects the producing ability of this country.

Mr. TAUZIN. Thank you.

Mr. SHARP. The gentleman from Indiana Mr. Coats is recognized for 5 minutes.

Mr. COATS. Thank you, Mr. Chairman.

Mr. Hughey, our good friend here, Congressman Fields, mentioned that you both were Baylor graduates and went to law school together, and he said you graduated high honors. I won't ask you where Mr. Fields fell in that category. But when I was in law school, they used to say that the A students became professors, the B students became corporate lawyers, the C students made all of the money, the D students, since they were not qualified for any of the above, ran for Congress.

Maybe I will just leave it at that and welcome you to the panel.

I would like to ask questions of the panel. Originally, the concept of tax reform envisioned the elimination of all shelters in return for substantially lower rates.

My question to you is, To what level would rates overall have to be lowered to which you would then be able to respond, "Well, yes, we can see the benefit of simplified across-the-board type of a tax system," or is this impossible in your industry?

Is your industry unique? As a result of that uniqueness, would lower rates offset? Obviously, you get down to zero, you would buy it.

But is there a level in there at which point you would be willing to say, "Well, yes, we will forgo the tangible drilling and all of the other—percentage depletion and all of the other tax benefits"?

I am opening that question to all of the members of the panel, Mr. Hughey or anybody else who wants to answer.

Mr. Singer. I would be prepared to answer. I think that the answer to the question—it is a very reasonable question. It addresses the underlying issue of tax reform. But the answer for the independent oil and gas producer would be different than for many other industries.

The independent oil and gas producer has to operate out of current cash-flow. The independent oil and gas producers do not have the opportunity nor the ability to finance with that most of the current operations. He has nothing that is perceived to be of collateral value to a lender. So there are two ways he can do it: either out of his internal cash or outside capital.

In order to allow an independent producer to get to the point where he could accept a tradeoff, you are suggesting simplifying the tax system, a uniform system with low enough rates that there would be a fair tradeoff. There would have to be a very, very complex and very detailed transition system which would allow him to get from point A to point B.

All of the problems that we are looking at in the EIA report—and I disagree with some of the conclusions very strongly—but all of the problems that they point out about the increased rate that independent producers would pay ignore more pressing problems, which is that even if the 15 years output to a point where the rate of return was reasonable due to the lower marginal tax rate, none of them would be in business any more.

So the problem cannot be addressed directly with a number that says that there is rate. I am confident that there would be a rate, but the problem is getting from one system to another. The transition is a very, very difficult and complex problem.

Mr. Coats. Can anyone answer for me what the average, if there is such a thing, average tax rate for small independent oil and gas producers is?

Mr. Deas. I can give you one.

Mr. Coats. I will take it.

Mr. Deas. Of my gross of everything overall, I paid 18 percent total taxes last year; 18 percent.

Mr. Coats. Is that typical?

Mr. Deas. I cannot answer that. That is a difficult question to answer. I rather think that it is close. It is in the ballpark. And so

I find that a reasonable figure of my gross gross before taking any deductions.

Mr. **Coats**. So if we could solve the transition problems, a tax rate between 15 and 20 percent might be something you would look at in return for foregoing——

Mr. **Deas**. I said total tax. My Federal tax was 8 percent. We have a heavy taxation on us, severage taxes in the State of Louisiana. The State of Louisiana has to function off of our severage taxes.

You might want to talk to Mr. Tauzin and whether you want to take that money away from them.

Mr. **Coats**. He has never been one for taxing or pouring a lot of money into the Government. If he became Governor of that State, he would need that revenue.

Mr. **Tauzin**. The only oil and gas we tax in Lousiana is the ones that Mr. Deas sells to you folks up North.

Would the gentleman yield?

Mr. **Coats**. I would be happy to yield.

Mr. **Tauzin**. You got into good subject matter with reference to the tradeoffs in the original perception of tax reform.

Mr. Singer, you mentioned that the alternate minimum tax was one of the biggest problems in the code because of the way that the IDC offset, lack of offset operates against it. I have heard the same thing from many of you, that it is a combination of the lack of the IDC or the lack of the offset in a minimum tax that creates such a big additional tax burden for the industry.

Could you favor an alternate minimum tax if you had a proper IDC offset?

Mr. **Singer**. We have that already. We are already operating under a comprehensive minimum tax, and I would point out to you that there is a distinction between the alternative minimum tax that we have now and a dramatically broader one that is being offered under Ways and Means.

Many, many operators pay minimum tax now. They pay their fair share under that calculation.

Mr. **Tauzin**. It has changed. And you do not like the changes regardless of the IDC relationship, is that correct?

Mr. **Singer**. The changes are such that we would be dealing with, unlike most preference items, as are calculated now, which are special categories of income, we would be taxed as a preference on an income item. We are being taxed for spending money. It is real money that we are spending, actual hard dollars, and we are paying a tax on top of that—and I use the word very loosely—for the privilege of spending that money.

Mr. **Tauzin**. That is a $1.25 calculation?

Mr. **Singer**. Yes. It used to be very recently, before the marginal tax rates were changed, reduced from 70 to 50, an oil and gas producer. ignoring certain variations of State taxes, they used to talk about if he was in the 70-percent tax bracket, that he could drill a well and the intangible portion of those costs would be 30-cent dollars.

There was a concern on the part of oil and gas producers who raised outside capital—and I do not drill wells with outside investment, but I understand the legitimate use of outside capital—there was a concern that when you reduced the marginal tax rate to 50 percent, that the investors and the producer himself were drilling wells with 50-cent dollars and it may reduce the attractiveness of some drilling.

Nevertheless, the industry was satisfied that this was a reasonable approach to the tax system. By putting on this alternative minimum tax provision which denies the income offset, you would be drilling wells not with 50-cent dollars but with $1.25 dollars. That is where we start to feel that it is punitive.

Mr. TAUZIN. I thank the gentleman for yielding.

Mr. GOODRICH. May I answer your question, or at least make an observation? If you compare the current tax law with any kind of a flat tax idea where our industry is concerned, let's say that a producer had $1 million a year of oil and gas income, if he sat there and did nothing under the current tax law, he drilled no wells with that money. He would pay a very, very large tax.

The only way that tax is going to be reduced is by him getting out and drilling wells and therefore taking advantage of the incentive of intangible drilling costs, which is a deduct against your taxes. If you put it on any kind of a flat rate, whatever that would be, there would be no incentive in that to drill wells. If you're not getting any advantage from the intangible drilling costs, you would pay the same tax basically if you sat there and did nothing, or if you drilled wells.

The problem is that if you drilled the wells, you would not have the money to pay the tax.

Mr. COATS. The incentive would be that you would like to make $1 million the following year and the following year and the following year. And you cannot continue to do that unless you are out there producing in the business.

And I guess what I am trying to measure here is at what rate of return would we continue to be able to provide the incentive to find the oil and gas and make the drilling pay the tax without the incentive of the wells. And I think we have pretty much——

Mr GOODRICH. We all have an incentive to make money next year, but we also have to look at our cash-flow this year. What I am saying, if you give me an option—this isn't like going and building an apartment building. Imagine, if you will, that a contractor knew that by the time you get two-thirds of the money spent in every building, there was a 70-percent chance that the building is going to fall down. That's what we're doing when we drill an oil well. We are going to probably have a dry hole if you just take the odds.

So if you're looking at spending dollars under our program today, where you get not one penny of incentive unless you drill, to me, if you think that this is important to this country in energy securi[illegible] and you compare that with the fact that you get no incentive at all to drill wells, there is no way that you are not going to have less wells to drill.

Mr. COATS. I guess I would tend to disagree with you. At some point there is going to be a way. You are not only going to have less wells, you are going to have more wells. If you move the tax rate to a certain level, there is going to be—and there is a demand for the product—there is going to be an incentive to drill. You may not be paid up front on that incentive, but somebody has got to take the risk on the basis of the potential return, and if so—the taxation of that return is not oppressive, there are going to be people out there drilling.

Mr. GOODRICH. But is it in this Nation's best interests to have oil prices at $100 so it would be a great incentive for us to go look for it? That's what you are saying. You are going to cause the price to go up so great that the incentive will be there.

Mr. DEAS. We had this conversation with the Treasury Department, and the Treasury Department said, "For loss of revenue that we are going to tax from you you are going to get it back in increases in prices." And I said, "How much?" And they said, "Well, it would to go $45 to $50 a barrel." And I said, "When?" And they said, "Well, we don't know." And I said, "In the interim we go down to some—we're in a world of commodity problems today."

Mr. COATS. I understand that. I think Mr. Singer's point was to that point also in terms of the transition. And I am not necessarily arguing for one or the other.

I am asking an academic question. At what rate of return do you feel that it would justify eliminating the tax, so-called tax incentives, because that is the only way in my mind that we are going to, if ever, get to a tax reform system. And unless we can achieve low enough rates in return for the elimination of shelters and deductions and incentives, we are going to continually be arguing over who has priority and which industry ought to be favored, to what extent, and it is an endless game here that we play in Congress. And there appears to be no solution, and that is what the Ways and Means Committee is going through right now.

Mr. DEAS. But, sir, you assume there is a perfect market out there.

Mr. COATS. I am not assuming anything.

Mr. DEAS. In the academic argument there is the assumption of a perfect market, and in the real world that is not the case. It is not there.

The last time we got a price increase, they put a windfall profit tax. So, you know, we are living in the real world, sir, and that's all we're trying to talk about, although academically I understand how you want to get where you are.

The only other comment I will make is that—and this is an aside—is that tax reform reminds me very, very much of our pediatrician who told me one time, he said, "You should see the sins committed in the names of motherhood." Well, this is tax reform, you know. Sins are trying to be committed today in the name of tax reform, and it is certainly a motherhood item.

Mr. COATS. I would agree with that. I think that is what the Ways and Means Committee is finding out. And that is what we are all doing.

One final question, Mr. Chairman. I know I am over my time. Let me ask you this academic question.

This is one a little closer to home and one that this committee has dealt with in my time here. And that is, if all controls were removed from natural gas, production, marketing, transportation, and so forth, all Federal controls were removed, how does that change your opinion, if it changes it at all, in terms of a tradeoff for changes in the tax laws? Where would you come down on that question?

Mr. CARGILL. You have asked two academic questions, and I think I believe I am the only academician on the panel, even if a former one.

I would like to respond in the following way. We have all played the same game on many oral exam committees. I have asked questions of the same sort which sound very simple, but there is no simple answer that anybody can give to your question, because the questions involve incredibly complicated issues.

With respect to the first question, unless the entire tax system is changed to the point that there is no incentive, everybody is out there to play however he can, then it is politics as usual, the squeaky wheel is going to get the grease. And unfortunately, our wheel does not squeak as loud as a lot of other folks' wheels.

Mr. COATS. But the squeaky wheel would not be getting the grease here because there is no running to the Ways and Means Committee to say, "Give me this deduction and that exemption and so forth," if there were no——

Mr. CARGILL. If there were no exemptions, then you would make decisions based on economics. I have only been in this business for 5 years, and I am still a neophyte, and I do not preach the party line.

In fact, I don't necessarily agree with what I sometimes hear is the party line. I would be perfectly happy to do business on an economic basis, and I would love the opportunity to make investments on their economic merit rather than on their tax merits. In 5 years, I have not been able to do that.

Mr. TAUZIN. Would the gentleman yield?

Mr. COATS. Yes.

Mr. TAUZIN. I think the real problem, again speaking academically, is whether or an oil and gas investment opportunity in the hands of someone with limited cash-flow, the smaller producer, is going to be made in the context of other optional investments where you do not have a 70-percent chance of failure and where the cost of investing, the capital costs out front, are not so high.

When the comparisons are made, what I have heard from this panel is that, given that world where there would be a flat nonincentive Tax Code, that the likelihood is that most of these people would be doing something else. There would still be people doing oil and gas work, but it would be those who could get large amounts of capital and who would be widely diversified. That is what I heard.

Now, if we want that world, I think that is our choice. If we decided on a purified Tax Code that would be in some other committee arguing another economic policy that would not be interested in energy, the only people in this room would be the majors, highly diversified, highly capitalized leverage, the people who depend on outside investments and Ernst & Whitney say that the smallers depend on the outside investments, they would be doing something else under that kind of a world.

That is the real issue, and I think Mr. Deas put it right at the end of his comments. Is there a social policy worth fostering in our

Tax Code that encourages the independent oil and gas community? That's it in a nutshell.

Mr. Coats. I am way over my time.

Mr. Tauzin. I apologize.

Mr. Coats. It has been a great discussion. I appreciate the chairman's tolerance.

Mr. Sharp. I realize we need to get on with our other witnesses so that they can have their opportunity. The subject is a very difficult one.

Mr. Cargill, did you have something to respond to?

Mr. Cargill. Mr. Coats asked a question about rates of return, and however you arrive at it, it is perfectly clear that under the present system one can make investments today yield effectively 20 percent, 15 to 20 percent, with very little risk. Investment-grade municipal bonds for a person in the 50-percent bracket will yield 18 to 20 percent.

Mr. Coats. Those would not be available either.

Mr. Cargill. I understand. But given that one can do that now, in order for somebody to rationally get involved in this crazy business, if the potential return is less than 40 percent, he is a fool. And there are several of us around here, but I think you have to go——

Mr. Coats. That's very helpful.

Mr. Cargill. You have go to from there to whatever you want to propose. If the potential return is not at least twice what you can get, then it is crazy to do it.

Mr. Deas. I want to address one question. You said is there a tie-in or can there be between decontrol and tax. I do not think so. I think that they are entirely separate matters, and I think that they are not interlocked.

Mr. Coats. And you would not be willing to trade them off?

Mr. Deas. I don't think there is a tradeoff. I don't think there is one quid pro quo. First of all, I think that taxes have to do at whatever rate, I think that this thing is being ignored here is part of the system, and the system is capital recovery. It is a capitalistic system, and capital has to be honored, and they are trying to treat all income the same, and there are those of us who say that all income is not the same. There is a return, we say, and it is true, that you find oil and gas. You have increased your capital. We should get that increase without it being taxed as ordinary income. And that is the depletion oil.

Mr. Sharp. Gentlemen, we appreciate your preparation for the hearing and being with us this morning, and we thank you very much.

Mr. Sharp. We are now happy to welcome our second panel of witnesses, Mr. Wallace, Mr. Eisenstat, Mr. Durand, and Mr. Pitts, and Mr. Bolger.

Gentlemen, if you will come forward, we will try to get you set up here.

Mr. Bryant. Our second panel of witnesses includes Mack Wallace, commissioner, Railroad Commission of Texas; Samuel Eisenstat, representing the Council for a Secure America; Frances Durand, vice chairman, National Energy Policy Committee of the Texas Independent Producers and Royalty Owners Association; Mr.

Frank Pitts, president, Pitts Energy Corp.; and Perry Bolger, president of Brazos Petroleum.

We welcome you here today, and we will start with Chairman Wallace and ask you to proceed.

STATEMENTS OF MACK WALLACE, COCHAIRMAN, COUNCIL FOR A SECURE AMERICA, ACCOMPANIED BY SAMUEL EISENSTAT, PRESIDENT; FRANCIS DURAND, VICE CHAIRMAN, TEXAS INDEPENDENT PRODUCERS AND ROYALTY OWNERS ASSOCIATION; L. FRANK PITTS, PRESIDENT, PITTS ENERGY CORP.; AND PERRY BOLGER, PRESIDENT, PERMIAN BASIN PETROLEUM ASSOCIATION

Mr. WALLACE. I thank the committee for being able to appear before you on this occasion to discuss a very serious subject, our energy posture. I am Mack Wallace, member of the Railroad Commission of Texas. I am also cochairman of the Council for a Secure America. I am pleased to have this opportunity to submit testimony on behalf of the council regarding the impact tax reform proposals would have on our energy resources as they relate to our national security.

When I speak of U.S. national security throughout my remarks, I must include in that term the security of the State of Israel also, that small but strategic stretch of Earth which embodies those with democratic ideals that we hold dear. Israel is our only democratic ally in the Middle East, and its geographic location makes its destiny intertwined with our own.

Our concerns for the development of a viable domestic oil and gas industry is mutual. Our security at home and our foreign policy abroad depend on America's ability to supply the vast majority of its own energy requirements in times of world crisis.

America currently is absorbed in an intense national debate over tax reform. And while I claim no special expertise with our country's complex Tax Code, I do know something about energy, and I can tell that regardless of the long-term merits of revising the current Tax Code, this is most definitely not the time to make substantive changes that will affect the Nation's energy portfolio. It is perhaps the worst time.

These tax proposals will have a tremendous impact on the Nation's ability to produce oil and gas, and of course, should be considered on the highest plane of national interest. If implemented, any changes in existing energy tax treatment will do irreparable damage to our national security by crippling one of our most basic and strategic industries. The existing code, as it is applied to the search for and production of energy from its inception demonstrated our Government's support and recognition of the need to preserve an industry that is absolutely essential to our Nation's security. It has allowed America to drill almost 80 percent of all of the oil and gas wells drilled in the world. Absent this recognition by our Govermnment. we will not see much, if any, meaningful exploration.

Today, the plight of the small farmer in the United States who fed this Nation for so long is the analogue of the small independent driller who has drilled almost 90 percent of the exploratory or wildcat wells in this country. Does the Government really want to kill the goose that laid the golden egg? I refuse to believe it.

There is far more at stake than just the survival of an oil and gas industry. The entire American consuming public will suffer needlessly, and the security of the Nation will be placed in jeopardy. Any governmental action which has the effect of hindering or stopping exploration for needed oil and gas reserves will be nothing short of a national disaster.

The public interest is best served by thoughtful policies that will ensure growing, rather than dwindling, supplies of the Nation's primary energy resources. As this debate continues, we face a most serious problem, and our responsibility to the people is indeed a heavy one. Seventy five percent of the crude oil produced in the world today is produced by governments, not oil companies. The production of oil and gas therefore becomes an instrument for foreign policy. Do we want to inflict injury on ourselves by so crippling our own domestic industry to the point of furthering our dependence on unstable sources of foreign crude oil and crude oil products? I think and hope not.

The Nation also currently is struggling over our trade deficits, almost 50 percent of which comes from crude oil and crude oil products. In a deficit of that type in connection with the production of oil and gas, there is no such thing as a free market. There can only be a fair market. Crude oil and crude oil products into this Nation, imports into this Nation at a rate of approximately 5 million barrels a day, continue to enhance our dependence on unstable foreign sources. Incidentally, that will cost us about $62 billion this year.

Since 1972 the cost of crude oil and crude oil product imports into the United States has totaled $548.92 billion. If this amount had been expended on domestic exploration budgets, we would have had much greater production at home. The distinguished geologist William Fisher, former Assistant Secretary of the Interior, and presently the director of the Bureau of Economic Geology at the University of Texas, said recently that the natural gas situation is bleak in Texas, noting that a generation of Government intrusion into the market from the 1950's on through the NGPA of 1978 has taken its toll. In the last dozen years we have experienced curtailments of supply twice and surpluses twice. The result has been a severe erosion of market confidence in natural gas as a reliable supply source.

In 1950, one of my predecessors on the Commission, Gen. Ernest O. Thompson warned the House Ways and Means Committee about the national security significance of Government incentives for domestic exploration. And here, Congress is again tampering with those incentives.

The bottom line is that domestic oil and gas keep our Nation protected. In the past it was said that an Army traveled on its stomach. Today, an army travels on gasoline, jet fuel, and oil. Our ships, planes, tanks, and missiles are worthless pieces of junk without the oil and gas to move them from one place to another.

I consider it indisputable that our national security requires an active and prosperous domestic oil and gas producing industry. Of course, we all know that foreign oil could, and probably would, be denied us in the time of a national security crisis.

Congressmen, it is my considered judgment that we cannot afford as a nation to tamper with a proven system of incentives. We simply do not have the ready reserve or producing capacity for our national security. In times of crisis or war, there will be no time to drill oil and gas wells. To be useful, those wells must have already been drilled. Reserves lying undrilled are of little value in time of emergency. These wells must have already been drilled, equipped, and ready to produce. They must be hooked up and connected to pipelines and to refineries of ample capacity, ready to make the product required in sufficient quantities and of proper quality.

I urge the committee and the Congress to take no action that would remove incentives for the small operators to continue in the oil and gas industry. The small operator is a critical element of today's oil and gas industry because much of our exploration and development is shifting from the hunt for the giant or elephant fields to a universe populated with smaller fields. Of these fields, 98 percent are less than 1 million barrels of oil or equivalent, and most are no more than 500,000 barrels in size.

While we may be beyond elephant hunting, the smaller deposits have aided in leveling out the decline in production. In sum, they can provide a substantial boost in this country's oil and gas reserves. Typically, these small deposits are developed by the small operator, since they are suited to his operation and interest. And the tax incentives under consideration may spell the difference in survival for these operators.

Present incentives are absolutely necessary, for it is simply the case that a domestic producer, no matter how efficient he may be, by producing about 12 barrels of oil a day from a well, cannot compete with a 30,000-barrel-a-day well produced in Saudi Arabia off of a Government lease.

The roots of this Nation's and any nation's well-being is agriculture, minerals, and energy. Fundamentally, the drafters of these proposed revisions would apparently have Congress ignore these resources, and the fact that we produced ourselves to greatness. It is these resources that formed the real basis for a sound, balanced economy and a good life for our citizens.

Thus, I cannot agree with those who state that we are in a postindustrial society where those in the service industry reign supreme. How can a modern society function? Are we to survive by taking in each other's laundry, by directing the operation of a national hamburger chain, or by developing a new formula for fried chicken?

To the contrary, rather than moving toward an exclusively service-oriented society here in the United States, I urge that we take the necessary steps to retain our basic industries and to provide them with the incentives to remain strong and viable. Otherwise, it is my concern that we will end up having exported all of our fundamental industries including manufacturing, with the result that ultimately we will be exporting basic raw commodities and importing finished goods.

I urge this committee and the members on it to help this country return to its earlier goal of energy independence by recognizing the strategic importance of our energy resources to our national security.

I thank you, and I will be happy to respond to any questions you may have.

Mr. **Bryant**. Thank you.

Mr. Eisenstat.

STATEMENT OF SAMUEL M. EISENSTAT

Mr. **Eisenstat**. Thank you. Mr. Chairman and members of the committee, my name is Samuel Eisenstat. I am pleased to be here in my capacity as president of the newly formed organization called the Council for a Secure America. Since this is the council's initial appearance before a House committee, I would like to take a few minutes to introduce the council to you and to discuss the reasons for the council's core concerns with U.S. energy and tax policies.

The Council for a Secure America was created less than 1 year ago to educate the American public and its officials of the pressing need to bolster U.S. national security and provide for a forthright and unfettered foreign policy.

In pursuit of this aim, a coalition of two key American constituencies emerged. Members of the domestic oil and gas industry and Friends of the State of the Israel in the United States came together to espouse the following inescapable truths.

First, neither the United States of America nor the State of Israel can afford the threats to United States national security imposed by unacceptable levels of imported crude oil and refined products from often hostile and unstable foreign governments.

Second, to ensure independence from the intolerable risk of foreign imports, the domestic oil and gas industry must remain vital enough to explore for, produce, and refine reserves sufficient to replace and add to current domestic production.

Third, the key to preserving and maintaining a thriving domestic oil and gas industry is the independent oil and gas operator who drills 89 percent of the exploratory or wildcat wells in the United States. This activity locates the new reserves of oil and natural gas we have to be constantly finding to maintain an increased rate of production.

Finally, tax policy will make or break the goal of energy independence. Tax law that allows the development of U.S. crude oil, natural gas, natural gas liquids is every bit as justified today as it ever was. Independent oil and gas operators are especially sensitive to tax law. Their capital is not cash in the bank, but oil and natural gas in the ground. From the revenues of the sale of their production and investments they attract, venture capital is generated for their drilling programs. Thus, tax policy decrees whether the critically needed venture capital will be available to keep the rigs running.

On April 11, 1870, Robert Lowe, Viscount of Sherbrooke testified before the House of Commons on tax matters. He is said to have referred to the Chancellor of the Exchequer as "a man whose duties make him more or less of a taxing machine intrusted with a certain amount of misery which it is his duty to distribute as fairly as he can."

I know you gentlemen must be able to empathize with the sentiment expressed and the council surely believes that the issue of fairness is important to tax policy, but fairness must be viewed in a broader light when the national security is at stake.

Let's take a look at the domestic industry today. Energy is the lifeblood of our industrial society, and oil and natural gas provide approximately 70 percent of that energy. This will be true for decades to come. Thus, the need for precious oil and gas resources is of no short-term duration.

The trend, however, shows that we are not moving forward, we are moving backwards. The number of active drilling rigs in the country has dropped by 40 percent since 1981.

Some argue that drilling is down because demand is down. That is certainly contrary to the fact that we imported over 5 million barrels of crude oil and refined products per day in 1984. These imports cost over $54 billion, which constituted approximately 45 percent of the total foreign trade deficit.

The size and growth of this deficit is considered by many as the most dangerous trend in our economy today. The large trade deficit, however, is not the only unfortunate consequence, as recent events, particularly the hijacking of the *Achille Lauro* should remind us. All of the terrorist groups in the Mideast, without exception, likely receive their major funding from petrodollars, dollars that the free world must pay for oil from the gulf area.

Without the hundreds of millions of dollars they receive annually from the oil exporting countries, the terrorists could not have acquired huge bank accounts, limitless quantities of sophisticated modern weapons, and freedom of travel throughout the world.

Others argue that drilling is down because there is little left in the United States to be found. The truth is that vast supplies of oil and natural gas remain to be produced.

A map prepared under the auspices of another distinguished colleague and member of the council's board, Mr. Frank Pitts, and attached as an exhibit to the council's testimony, shows that 98 percent of our prospective sediments for the accumulation of oil and natural gas remain untouched by drilling. Only 3 percent of our offshore acreage has ever been leased.

The present tax law regarding intangible drilling costs is the independence jugular. It, along with percentage depletion, has made it possible for independent producers to serve the energy interests of this Nation by increasing the drilling activities and finding more reserves.

The administration's plan proposes to spare the vein from the knife. If the treatment of the IDC is not preserved in its current form, and if the depletion allowance is eliminated in its entirety, a recent survey indicates that wildcat drilling by independents will be reduced by 84 percent and development drilling will be reduced by 66 percent.

The impact of this curtailment on the discovery of new reserves is obvious. This would be an unconscienable situation. The council considers America's national security through energy independence a sina qua non. Without the independent producers, it cannot be achieved. Without present tax provisions, they cannot survive. To forfeit these provisions is tantamount to an abdication of national responsibility.

Thank you.

Mr. **BRYANT**. Thank you, Mr. Eisenstat.

Mr. Durand.

STATEMENT OF FRANCIS DURAND

Mr. **DURAND**. I am Francis Durand. I am a senior consultant with Ernst & Whinney, national firm of certified public accountants. I appear today as vice chairman for Federal Taxation of the Texas Independent Producers and Royalty Owners Association, TIPRO, which represents some 5,000 members who have an interest in oil and gas production in Texas.

I think I am not alone when I express the view that the economic environment surrounding the oil and gas exploration and production industry today is currently extremely poor. Oil prices are down 20 to 25 percent during the past year. Gas prices are spiraling down even further.

As an example, I know of one company who is producing 500 million cubic feet per day. They had a $3.30 average price in December of last year, and they were down to $2.31 in August.

Adding tax burdens on top of what is a very bad economic environment will undoubtedly result in a decline of the E&P activities. That has been a very common conclusion drawn by people in the oil and gas industry.

Ernst & Whinney decided to make a survey, and they sent out 10,000 requests for information to independent producers. The survey was based on two or three items alone: disallowing IDC deductions, eliminating percentage depletion, and the source of funds for E&P activities.

Mr. Pitts, who will testify next, made a different type of survey, which was based upon the Staff I proposal, which included all of the factors. Two different surveys entirely. Let's get to the Ernst & Whinney survey.

Based on information provided by the respondents, it was estimated that if IDC and percentage depletion were disallowed and tax rates reduced, there would be an increase in corporate respondents of 90 percent in their tax burden. Individuals was 150 percent. And the average was approximately 96 percent.

Dealing with the planned drilling activity for 1986, the questionnaire requested the respondent to furnish us with information as to what they had spent in 1984, what they proposed to spend in 1986, what they would spend if IDC deduction were disallowed and tax rates reduced, and what they would spend if percentage depletion was disallowed and tax rates reduced.

With respect to the IDC, 435 respondents out of a total who responded of 457, they said they would reduce their E&P expenditures. With respect to how much, those respondents had spent or planned to spend in 1986 approximately $1.5 billion. They said that they would reduce this by an average of 36 percent if IDC was disallowed, and an additional 16 percent if percentage depletion was disallowed.

With respect to those respondents who spent less than $25 million a year, 449 responded; 427 said they would reduce the amount spent on drilling. With respect to IDC, the reduction would amount to 48 percent. And with respect to percentage depletion, 26 percent.

There was some testimony earlier today as to where the independent oil and gas producer gets the money to spend on oil and gas drilling. Very surprisingly to a lot of people, maybe, but not to those who know, the respondents indicated, for all respondents, 86 percent in 1984 and 87 percent in 1980–83 came from internally generated funds.

For those whose responses were applicable to spending less than $25 million a year, 56 percent in 1984 and 52 percent in 1983, with a lower amount as far as the smaller independents are concerned. 37 percent came from outside investors in 1984 and 42 percent in 1983.

Congressmen, I think you have a very, very difficult row to hoe. However, I think, without a doubt, our Nation's future security both economic and otherwise depends upon the oil and gas industry being a very viable industry. We cannot turn this particular industry over to what would amount to reliance on foreign sources.

Thank you.

Mr. BRYANT. Thank you, Mr. Durand, for your testimony and for your study.

Mr. Pitts.

STATEMENT OF L. FRANK PITTS

Mr. PITTS. Thank you for the invitation to speak to this committee, to the committee members today. I am an independent oil natural gas producer with more than 40 years of experience in the industry. I am a member of TIPRO, former president of TIPRO, and currently a member of the executive committee.

Our industry's life is seriously threatened by those who would tax independence out of existence. In the effort to draft tax reform legislation, there have been three major proposals, all of them proposing changes to the current oil and gas provisions. These include Treasury I proposal of November 1984, Treasury II proposal of May 1985, and the Staff Rosty, so-called, proposal of September 26, 1985, which is currently the—Rosty is currently being used as a basis for reform bill markup in the Ways and Means Committee.

My survey, the results of which I am reporting now, was the only one performed on the effects of Staff I. The very thing that the Ways and Means Committee is using as a markup on the drilling activities of independents. Other surveys studied the effects of either Treasury I or Treasury II.

My survey was made after many Congressmen had said to me, "We understand your statements of how it would affect you, but we need some hard data on how it would affect many independents." And that was the basis of the study.

So my survey was made with 3,000 independents, approximately 25 percent of all independents. Independents drill 90 percent of domestic wildcat or exploratory wells, and 87 percent of all wells in this country. The survey is statistically valid with the 321 respondents representing over 11 percent of all wells drilled by independents in 1984.

Now, remember, independents drill 87 percent of all wells. The survey revealed that if Staff I becomes law—and by the way, we have this survey; I hope you have it in front of you, and there are charts in the survey that you may follow what I am saying. The survey revealed that if Staff I becomes law, independents will reduce their wildcat or exploratory drilling by 84 percent, their development drilling by 68 percent, and their total drilling by 71 percent.

These and other findings of the survey and the ramifications are depicted on the various charts that are contained in this report that you have, I hope, in front of you.

Some of the more important ramifications of the survey are: The number of wildcat exploratory wells drilled by independents will decline from 10,600 wells in 1985, estimated, to only 1,600 wells in 1986. Independents' total drilling, wildcat and development, will decline from 56,700 wells estimated in 1985 to only 15,600 wells in 1986. The decrease in the number of wells drilled by independents in the first 5 years alone and the resulting loss in new reserves found—new reserves found is very important in our industry and to our country—will cause a dramatic increase in the amount of foreign oil that must be imported to meet the demands of American consumers.

The required increase in imports will raise a portion of the U.S. trade deficit attibutable to imported oil to approximately $230 billion in only 10 years. That is assuming there is no increase and demand or price. And we all know that there will be.

The $230 billion increase will be over and above the current level of imported oil which last year was some $62 billion, or roughly 50 percent of the total deficit of $123 billion.

The Joint Committee on Taxation estimates that the oil and gas provisions of the Staff I tax proposals will bring the U.S. Treasury an additional $11.3 billion between 1986 and 1990. Well, in fact, there will be a loss to the Treasury for that period of some $48 billion due to the decreased oil and gas revenues available for taxation. Over a 10-year period, the loss would be some $81 billion.

The projected $81 billion loss in taxes plus the increase in the trade deficit of $231 billion equals an estimated real cost to the U.S. economy of $312 billion for the years 1986 through 1995.

All of this is due to the oil and gas tax provisions of Staff I, socalled Rosty I, by some people. The production decline resulting from enactment of tax proposals diverting capital from oil and natural gas drilling activity will not only increase our already hemorrhaging trade deficit, but will make the United States more and more dependent upon imports from the Middle East and north Africa. The only place you can get very much oil if you need it quickly. And this is the tinderbox of the whole world, the backdoor of Russia.

Sound energy policy dictates that everything possible should be done to increase American production of oil and natural gas. Increasing our dependence on imported oil threatens our national security and American defense is the No. 1 claim on oil supplies in peacetime, and in wartime the immediate demand would quadruple. It makes no sense, to me at least, to build machines for defense and fail to provide ample, dependable supplies of fuel to move them. American production is the only such dependable supply.

We must not be overly dependent on oil from the Middle East and north Africa, oil that can be embargoed and/or shut off by hostile action.

We have heard here today that energy is the lifeblood of an industrial nation, and it certainly is, and oil and natural gas supply 70 percent of that energy. We are the largest consumer of oil in the entire world. We have roughly 6 percent of the population of the world, and we consume 30 percent of the energy consumed in the world—70 percent of that, as I have just said, is oil and natural gas.

Truthfully, you can substitute natural gas in many cases for oil. But remember this, there is no known substitute today for oil in transportational uses. We must do everything possible to increase our domestic oil and natural gas production.

Enactment of Staff I, Rosty I, with the resulting decrease in American drilling and production, will impair our American way of life, our national security, and, most importantly, is that security, but also will affect our national economy—jobs and what have you.

Should such a devastating tax proposal become law, this Congress will be held responsible or accountable by the American people.

Thank you very much.

[The prepared statement of Mr. Pitts follows:]

TESTIMONY OF L. FRANK PITTS
BEFORE THE HOUSE ENERGY & COMMERCE SUBCOMMITTEE ON FOSSIL & SYNTHETIC FUELS
WASHINGTON, DC - NOVEMBER 7, 1985

I AM AN INDEPENDENT OIL AND NATURAL GAS PRODUCER WITH MORE THAN 40 YEARS EXPERIENCE IN THE INDUSTRY, AN INDUSTRY WHOSE LIFE IS SERIOUSLY THREATENED BY THOSE WHO WOULD TAX INDEPENDENTS OUT OF EXISTENCE.

I HAVE CONDUCTED A SURVEY OF SOME 3,000 INDEPENDENTS, APPROXIMATELY 25% OF ALL INDEPENDENT PRODUCERS -- THE ONLY SURVEY ON THE EFFECTS OF STAFF I/ROSTY I ON THE DRILLING ACTIVITY OF INDEPENDENTS. INDEPENDENTS DRILL 90% OF ALL DOMESTIC WILDCAT, EXPLORATORY WELLS AND 87% OF ALL WELLS. THE SURVEY IS STATISTICALLY VALID, WITH THE 321 RESPONDENTS REPRESENTING OVER 11% OF ALL THE WELLS DRILLED BY INDEPENDENTS IN 1984.

THE SURVEY REVEALED THAT, IF STAFF I BECOMES LAW, INDEPENDENTS WILL REDUCE THEIR WILDCAT DRILLING BY 84%, THEIR DEVELOPMENT DRILLING BY 68%, AND THEIR TOTAL DRILLING BY 71%. THESE AND OTHER FINDINGS OF THE SURVEY AND THEIR RAMIFICATIONS ARE DEPICTED ON THE VARIOUS CHARTS THAT ARE CONTAINED IN THE HANDOUTS YOU HAVE RECEIVED.

SOME OF THE MORE IMPORTANT RAMIFICATIONS OF THE SURVEY ARE:

- THE NUMBER OF WILDCAT EXPLORATORY WELLS DRILLED BY INDEPENDENTS WILL DECLINE FROM SOME 10,600 WELLS IN 1985 TO ONLY SOME 1,600 WELLS IN 1986.

- INDEPENDENTS' TOTAL DRILLING (WILDCAT AND DEVELOPMENT) WILL DECLINE FROM SOME 56,700 WELLS IN 1985 TO ONLY SOME 15,600 IN 1986.

- THE DECREASE IN THE NUMBER OF WELLS DRILLED BY INDEPENDENTS IN THE FIRST FIVE YEARS ALONE, AND THE RESULTING LOSS IN NEW RESERVES FOUND, WILL CAUSE A DRAMATIC INCREASE IN THE AMOUNT OF FOREIGN OIL THAT MUST BE IMPORTED TO MEET THE DEMANDS OF AMERICAN CONSUMERS.

THE REQUIRED INCREASE IN IMPORTS WILL RAISE THE PORTION OF THE U.S. TRADE DEFICIT ATTRIBUTABLE TO IMPORTED OIL TO APPROXIMATELY $230 BILLION IN ONLY 10 YEARS, ASSUMING NO INCREASE IN DEMAND OR PRICE. THE $230 BILLION INCREASE WILL BE OVER AND ABOVE THE CURRENT LEVEL OF IMPORTED OIL WHICH, LAST YEAR, WAS SOME $62 BILLION, OR ROUGHLY 50% OF THE TOTAL DEFICIT OF $123 BILLION.

- THE JOINT COMMITTEE ON TAXATION ESTIMATES THAT THE OIL AND GAS PROVISIONS OF THE STAFF I TAX PROPOSALS WILL BRING INTO THE U.S. TREASURY AN ADDITIONAL $11.3

> BILLION BETWEEN 1986 AND 1990, WHILE IN FACT, THERE WILL BE A LOSS TO TREASURY FOR THAT PERIOD OF SOME $48 BILLION DUE TO THE DECREASED OIL AND GAS REVENUES AVAILABLE FOR TAXATION. OVER A 10-YEAR PERIOD, THE LOSS WOULD BE SOME $81 BILLION.
>
> THE PROJECTED $81 BILLION LOSS IN TAXES, PLUS THE INCREASE IN THE TRADE DEFICIT OF $231 BILLION, EQUALS AN ESTIMATED REAL COST TO THE U.S. ECONOMY OF $312 BILLION FOR THE YEARS 1986-1995. ALL OF THIS IS DUE TO THE OIL AND GAS TAX PROVISIONS OF STAFF I.

THE PRODUCTION DECLINE RESULTING FROM ENACTMENT OF TAX PROPOSALS DIVERTING CAPITAL FROM OUR OIL AND NATURAL GAS DRILLING ACTIVITY WILL NOT ONLY INCREASE OUR ALREADY HEMORRHAGING TRADE DEFICIT, BUT WILL MAKE THE UNITED STATES MORE AND MORE DEPENDENT UPON IMPORTS FROM THE MIDDLE EAST AND NORTH AFRICA. THIS AREA CONTAINS 74% OF THE FREE WORLD'S PROVEN OIL RESERVES. THERE ALONE CAN BE FOUND THE UNUSED PRODUCTION CAPACITY TO COMPENSATE FOR SIGNIFICANT DECLINES IN AMERICAN PRODUCTION. EIGHTY PERCENT (80%) OF THE FREE WORLD'S UNUSED PRODUCTION CAPACITY IS IN THESE AREAS, THE TINDERBOX OF THE WORLD.

SOUND ENERGY POLICY DICTATES THAT EVERYTHING POSSIBLE BE DONE TO INCREASE AMERICAN PRODUCTION OF OIL AND NATURAL GAS. INCREASING OUR DEPENDENCE ON IMPORTED OIL THREATENS OUR NATIONAL SECURITY. AMERICAN DEFENSE IS THE NUMBER ONE CLAIM ON OUR OIL SUPPLIES IN

PEACETIME. IN WARTIME, THE IMMEDIATE DEMAND WOULD QUADRUPLE. IT MAKES NO SENSE TO BUILD THE MACHINES FOR DEFENSE AND FAIL TO PROVIDE AMPLE, DEPENDABLE SUPPLIES OF FUEL TO MOVE THEM. AMERICAN PRODUCTION IS THE ONLY SUCH **DEPENDABLE** SUPPLY. WE MUST NOT BE OVERLY DEPENDENT ON OIL FROM THE MIDDLE EAST AND NORTH AFRICA -- OIL THAT CAN BE EMBARGOED AND/OR SHUT OFF BY HOSTILE ACTION.

ENERGY IS THE LIFEBLOOD OF OUR INDUSTRIAL NATION. OIL AND NATURAL GAS PROVIDE SOME 70% OF THE TOTAL ENERGY REQUIREMENTS OF THE UNITED STATES, AND WILL CONTINUE TO DO SO FOR YEARS TO COME. WE MUST DO EVERYTHING POSSIBLE TO INCREASE OUR DOMESTIC OIL AND NATURAL GAS PRODUCTION. ENACTMENT OF STAFF I, WITH ITS RESULTING DECREASE IN AMERICAN DRILLING AND PRODUCTION, WILL IMPAIR OUR AMERICAN WAY OF LIFE, OUR NATIONAL ECONOMY, AND, MOST IMPORTANTLY, OUR NATIONAL SECURITY.

SHOULD SUCH DEVASTATING TAX PROPOSALS BECOME LAW, THIS CONGRESS WILL BE HELD ACCOUNTABLE BY THE AMERICAN PEOPLE.

Mr. **Bryant**. Thank you, Mr. Pitts.

Mr. Bolger.

STATEMENT OF PERRY BOLGER

Mr. **Bolger**. Thank you, Mr. Chairman, and members of the committee. Thank you for this opportunity to appear before you. I would like to say it is an honor for me to be on a panel with two such distinguished and articulate and knowledgeable spokesmen for our industry as Frank Pitts and Mack Wallace.

I would also like to straighten up something that Mr. Hall said earlier. He said that Texas and SMU had already yielded to Baylor. Texas has yielded to Oklahoma and SMU, but they have not yielded to Baylor yet. Now, that might occur.

Mr. **Hall**. I meant Texas Christian.

Mr. **Bolger**. All right.

Mr. **Fields**. I was going to ask some nice questions until he said that.

Mr. **Bolger**. I laid myself open to that.

I am Perry Bolger, president of the Permian Basin Petroleum Association and of Brazos Petroleum Co., a small, privately owned independent oil and gas producer in Midland, TX. I am joined today and accompanied by Mr. Charles Perry, who is vice president of the Permian Basin Petroleum Co., the president of Perry Management Co., independent oil and gas producer in Odessa, TX.

The Permian Basin Petrolum Association has 1,500 members. The Permian Basin is the largest single crude oil producing region in the lower 48 States, both in size and in barrels of production. It encompasses 54 counties in west Texas and four counties in eastern New Mexico, or about 100,000 square miles, and produces about 20 percent of the Nation's crude oil total crude oil production of about 8.8 million barrels per day.

The smaller independent producers of this region would be through, finished, if the Ways and Means Committee proposals concerning intangible drilling costs, depletion, and investment tax credit are enacted. Opinions expressed by our members concur with the Frank Pitts survey that independent producers would at least reduce wildcat drilling by 84 percent and development drilling by 67 percent.

I personally think it would be much worse. I think that most would stop drilling entirely under these proposals. Lower oil prices, lower gas prices, and uncertainty over tax laws have already caused a severe downturn in our segment of the industry. There are approximately 275 rigs running in the 58-county Permian Basin, down from a peak in 1980 of 582, of 520. I might add that this decline began immediately severely after just the announcement of Treasury I.

Approximately 60 percent of those 275 active rigs are working for the top 24 companies in the United States. Numerous companies in our area have failed, taken bankruptcy or merged out of existence. The First National Bank of Midland, TX, failed, with deposits of over $1 billion. I have heard the FDIC still manages a loan portfolio of $600 million and plans on doing so for 5 or 6 years.

You will say, as others have, that the causes for these debacles were greed and overly high expectations for oil prices and that a shakeout was needed. I will agree with that in part, but in my opinion, that was only a part. Other reasons were: Continually changing and increasingly punitive Federal tax laws which, along with lower anticipated prices, chased external capital from the scene.

Could part of the weakened oil prices have been caused by Middle East policy which glutted markets when synthetic fuels became more competitive and domestic drilling increased and we were replacing our reserves?

Even so, the independents have survived all of these problems and can live under the pricing uncertainties, but not with the Ways and Means Committee proposing changes in the taxes. Production of the 24 largest companies had been—largest oil and gas companies—has been continually declining in the lower 48 States. The other 15,000 or so smaller companies—and I am not sure that there are that many any more—have been responsible for maintaining U.S. production at a rate equal to 1979. Without the independent producer, domestic U.S. production would be over 1 million barrels per day lower than it was in 1979.

Under the Ways and Means Committee proposals, the following would occur: The larger—in my opinion, the larger companies and individuals would stop drilling except maybe a few exploratory wells by the biggest companies. The next level would simply not drill and liquidate their reserves over time. And we have heard that expressed by the previous panel.

The next level, the smaller companies, would have to liquidate immediately. There would be no venture capital, no entrepreneurs, no entry-level people, because there would be no external capital for such a risky business.

With no drilling, and the acquisition of the existing reserves by the stronger entities instead of drilling, fewer reserves will end up in the hands of fewer and larger entities. The small independent producers and explorationists will disappear. Is this the goal of tax reform? I assure you this will be the result.

Thank you for your time.

Mr. BRYANT. Thank you, Mr. Bolger.

Thanks to each of you for being here. It is an honor to be able to participate in a hearing in which the five of you are testifying for good friends from Texas. I don't know how many hundreds of thousands of people directly work for the companies you speak for. I don't know how many millions of people in our State work for or have jobs which are directly dependent upon the industry that you represent. It is critically important to us, and it is an honor for me to have you here.

Sandy Eisenstat, you may not be from Texas, but you talk like somebody who is. Jack and Ralph and I would try to get you to be an honorary Texan at the very least. We are glad to have you here.

Let me ask one question first. The argument is often made—and was made, in part, a moment ago in the question asked by Mr. Coats—if you get rid of all of these incentives in the tax code, which are prerogatively described as loopholes quite often, it will be OK because you will be getting rid of all of the incentives for everybody and therefore the price of oil and gas will rise to such a level that those who are in the business will invest their money and gamble on the possibility of finding oil and gas in spite of the great chance of finding a dry hole, because at the end of the line there will be a terrific profit if you just let the market forces operate to the exclusion of any incentives.

I think that is a very difficult case to make outside of the classroom, but I think it would be good if you responded to it because that is a frequently made argument on the Hill. Starting with Mr. Bolger and working back?

Mr. **Bolger**. I was afraid you were going to start with me.

That is a difficult question, and in my opinion, it takes—it does not take into consideration the risk involved. One out of 20 wells—wildcat wells—are successful. You cannot factor that into the equation at all, I don't think.

You are also assuming, too, that there is this pool of money over here that you are investing. That might be true of second-and third-generation companies or major oil companies. But if you want to totally eliminate entry-level people and competition, how can they attract any kind of capital into the industry under those kinds of circumstances? I think that is important.

Mr. **Bryant**. Mr. Pitts.

Mr. **Pitts**. Basically, I am a believer in incentives. I run my business on incentives based upon the key people and others under them as well. I think incentives are very important—has been and still is—important in building the economic structure of this country. Incentives is the thing that made me leave the farm and seek a job in another State back in 1931 when I finished school.

I believe that fundamentally and basically the economics of this whole country is built on incentives, and I don't think they should be taken out of the code. I think they should be left in, not only for our type of risky business but for others as well.

Mr. **Bryant**. Mr. Durand.

Mr. **Durand**. Mr. Pitts referred to the incentives. I would like to point out that these provisions have been in the Internal Revenue Code for over 60 years. They were built in because of economics. They are not incentives as much as they are risk balancers.

Let me point out, when I testified before the House Ways and Means Committee, we presented an example of a situation where an investor in oil and gas operation would invest $100,000 and have a moderate return, not anything out of the world, just a moderate return.

Under the administration's proposal, which is the less punitive of the three, if that individual had put the same $100,000 into a CD, his risk would be nil, yet his return would be almost equal to what he got on the oil and gas industry investment. What does that point out? Where is the money going to go?

The oil and gas producer certainly is going to continue doing some production. But any good businessman is not going to put money into something which has a great risk when he can get the same return or better return, in some cases, where there is practically no risk. I think that is the problem.

Mr. **Bryant**. Mr. Eisenstat.

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Mr. **Eisenstat**. Our tax system, our system of tax laws is not simply a mechanism of raising revenues. It has always been a method of encouraging certain acts on the part of the population, be it charitable contributions, oil and gas exploration, certain forms of investment in real estate. I think this, in essence, is a risk-reduction vehicle to encourage investment.

Now, in particular, as it applies to oil and gas investment, we are talking about a long-term payout situation. I think that the tax laws permit the individuals involved to get a more immediate return and encourage them to continue their operation and to expand their operation which would not be the case if they merely had to wait until they received the reward, assuming they were successful in an exploration effort.

Mr. **Bryant**. Chairman Wallace.

Mr. **Wallace**. First, the production of oil and gas and other forms of energy ought to be considered as a strategic versus a nonstrategic industry. We live in a unique situation in this world today. Saudi Arabia, by raising and lowering the price of a barrel of crude oil, can affect the ability of this country to develop alternate sources of energy by simply lowering the price of crude oil.

All right. Now, Russia is also a player in that overall global game that we are involved in, because they withheld their October deliveries of crude oil just this last month in order to do two things. The first was to court the Saudis because they had dumped some oil on the world market and affected the world price. The second was, they had a temporary shortage of crude oil products within Russia itself.

Now, with the unique situation also existing where the U.S. Government blows its offshore fields almost wide open in competition with domestic oil and gas producers, and at the same time the U.S. Government is blowing Elk Hills, the Naval Petroleum Reserves, like there was no tomorrow.

You have all of these unique situations operating together to affect the price of a barrel of crude oil. Therefore, if you go to the straight free market, you are going to destroy a basic strategic industry. You can only have a fair market.

With 75 percent of the crude oil being produced by governments, there is no way—there is no way—that a person producing the smaller leases in the United States, average daily production of 12 to 15 barrels a day, can compete with the 30,000 barrels a day in Saudi Arabia. There is absolutely no way.

So, if we do not recognize the strategic importance of this industry, then we simply say do away with it and come what may, we will be dependent on foreign sources, because that is most assuredly what will occur.

Mr. **Bryant**. It seems to me the last point you make is the most telling one with regard to this argument that something like 75 percent of the oil in the world is produced by a government, meaning that they are not in a free-market environment, in the first place.

Mr. **Wallace**. It is now today in our world an instrument of foreign policy, and we either keep the chips to play in that game or we fold and accept the consequences.

Mr. **Pitts**. May I add a comment to this?

Mr. **Bryant**. Yes.

Mr. **Pitts**. What we are doing is playing into a game in someone else's hands. We will be in someone else's hands today, right now; 74 percent of all the known proved world reserves of oil is located in the Middle East and in North Africa. And the second point is very important; 80 percent of all the unused productive capacity of oil is located in that same area.

Now, I ask you, is that a good area for us to be dependent upon for our supply of oil? People think we can get all of the oil we want from Mexico, from Canada, from Venezuela, from the United Kingdom. But that is not true. Mexico couldn't give us over 100,000 barrels per day increase if we wanted it right quick. Canada could not supply very much to us. Venezuela could supply a few hundred thousand barrels of oil.

But if we needed 2 million barrels of oil per day, where would we get it, in addition to what we are getting now? We are getting 5 million barrels of oil in refined products now, but we are producing 9 million barrels roughly per day in this country. Where would we go to get it? We would go to the Middle East.

Mr. **Bryant**. Thank you.

The Chair recognizes Mr. Fields.

Mr. **Fields**. Mr. Chairman, thank you very much.

Chairman Wallace, it seems to me there are two messages that our State and panels from others who are testifying from this State should bring to Congress is the message of the real effects of Rosty I on our abilities to produce. It is very clear to anyone who has heard the message today, and to anyone who understands the issue. But the second message is one of the perceived effect, or the uncertainty and what that uncertainty is doing to those who produce.

My question is really just an open-ended question. From your vantage point, what effect is uncertainty having, particularly as it pertains to our reserves versus our future needs?

Mr. **Wallace**. I would address that perhaps in two different parts. I can tell you about the reserves of natural gas in Texas. It has been my bitter experience in 1983-84 that we curtailed industry. Fortunately, the schools were not in session during that cold spell. We produced 13.8 billion cubic feet a day.

Now, in 1977, when we opened the fields wide open in another weather emergency, we produced 17 billion cubic feet of natural gas a day.

I believe now that we can produce about 13.5 billion cubic feet of gas a day. So that the cruel truth of it is that we are using natural gas faster than we are able to replace it.

Now, that to me is a very serious situation. At the Commission each winter we empanel an ad hoc emergency committee that consists of people in the industry who know where the gas is and where the valves are. And they work all on a 24-hour basis as this cold weather approaches in order to distribute it around Texas and throughout the United States so that we can attempt to lessen the pain.

Now, as far as being able to communicate these approaching problems with Members of Congress I talked in the last 2 weeks to probably 20, perhaps 20 congressmen individually with the numbers we have given this committee, and I frankly do not know what else we can do.

I am willing to come and testify, visit, work with anybody who has an interest in facing this very serious problem.

Mr. Fields. Mr. Bolger, I am tempted to question your football wisdom, but I will not take the panel's time to do that.

Instead, I want to follow on the heels of the question I asked the chairman, and it is very difficult to ask a question about an amorphous word like "uncertainty." But you are the president of an association in a very important energy-producing area. I personally do not think we are going to have a tax bill. Of course, you are going to get varying opinions as to whether we will or we won't. But because there are different opinions, people are uncertain.

If I understood what you said just a moment ago, this uncertainty has caused a precipitous decline in the number of rigs operating in your 58-county area.

Mr. Bolger. That is correct. You could—whether the proposals go through or not, they have already had an effect. I think it started in November of last year. If you tracked the rig count, you would see a precipitous drop, and it has almost been steady ever since.

Mr. Fields. Does that uncertainty affect your ability to get financing from the bank to attract investors?

Mr. Bolger. All of the above. Yes, you are correct. If it is your individual investment you are making, the uncertainty of what the depletion allowance is going to be over a period of time, it affects—part of the hesitancy might be considered uncalled for because—well, hey, it is not passed yet. Why are these people holding back? But you have to recognize that a lot of these considerations that are being undertaken will affect that investment 10 years from now, 5 years from now.

So I think it is—the uncertainty is justified, in my opinion.

Mr. Fields. Mr. Chairman, I would also ask that the survey of the independent producers by Mr. Pitts be added to our record.

Mr. Bryant. If it is not part of his testimony, if there is no objection, so ordered. In fact, with regard to all of the exhibits that any of you may have attached to your testimony, if it is not already in the record, if there is no objection, we will make it part of the record.

[Testimony resumes on p. 941.]

[The survey referred to follows:]

SURVEY OF INDEPENDENT PRODUCERS
OF THE EFFECT OF THE STAFF I/ROSTY I TAX PLAN ON THEIR DRILLING

Mechanics of the Survey:

1. A survey questionnaire was sent to approximately 3,000 independent producers — approximately 25% of the nation's independents, a stastically valid sample.
2. Independents were requested to assume that Staff I/Rosty I was in effect during 1983 and 1984 and 1986 forward, and to:
    a. Recalculate their 1983 and 1984 actual federal income tax returns to determine the effect of Staff I/Rosty I on their working capital (cash) available for drilling;

    b. Determine the effect on the number of wells drilled in 1983 and 1984; and

    c. Project the effects on their future wildcat and development drilling activity.

Responses to the Survey:

1. As of October 21, 1985, 321 independents had answered the survey.
2. Producers from 15 states responded to the survey.
3. The survey respondents participate in drilling between 6,568 and 8,698 wells each year. This represents 11% to 15% of all wells drilled by independents in 1984.

Conclusions of the Survey:

1. Respondents to the survey reveal that, had Staff I/Rosty I been in effect in 1983 and 1984, on average:
    a. Their working capital (cash) available for drilling would have been reduced by 46% and 50%, respectively.

    b. The number of wells they participated in would have been reduced by 53% and 59%, respectively.
2. Respondents to the survey of independent producers further reveals that, if Staff I/Rosty I becomes law, they will, on average:
    a. Reduce future wildcat drilling by 84%;

    b. Reduce future development drilling by over two-thirds; and,

    c. Reduce their future total drilling, wildcat and development, by 71%.

Sources: Independent Producer Survey
Administered by Pitts Energy Group
October, 1985

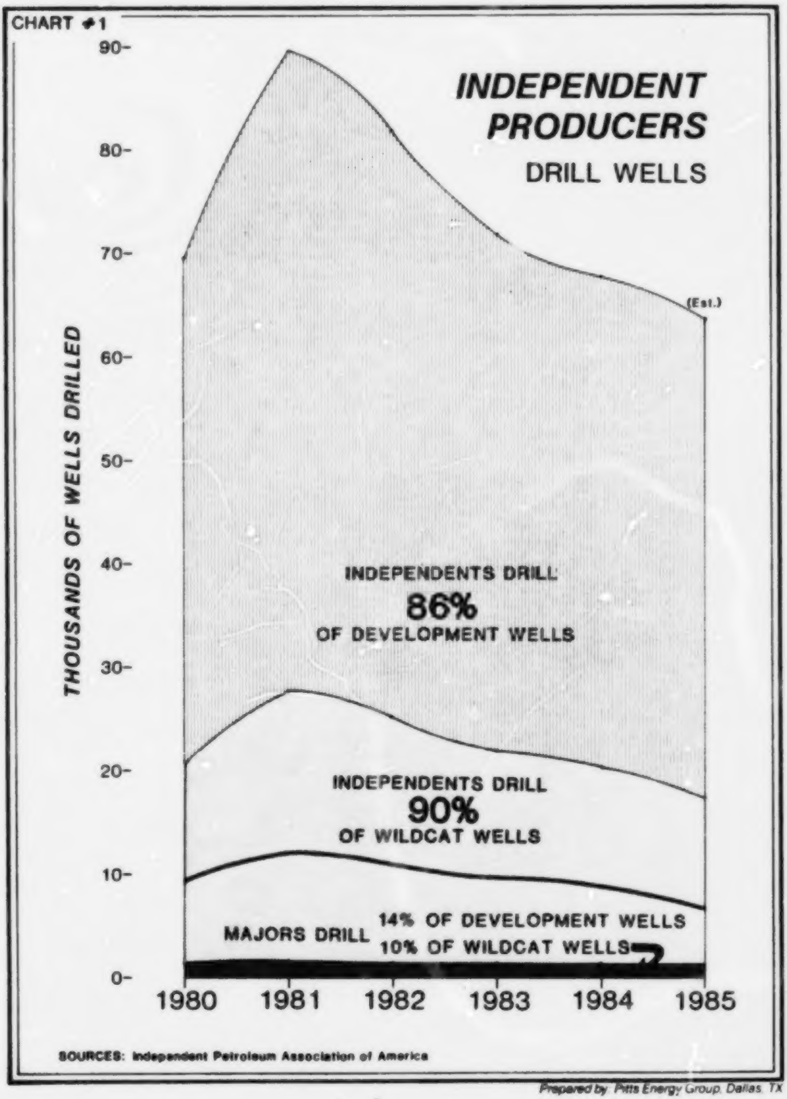
CHART 1

INDEPENDENT PRODUCERS DRILL WELLS

This chart depicts that independent producers, historically, drill 86% of all domestic development wells and 90% of all domestic wildcat wells. Major oil companies drill 14% of all domestic development wells and 10% of all domestic wildcat wells.

Independents drill approximately 87% of all wells drilled in this country.

Sources: Independent Petroleum Association of America



SOURCES: Independent Petroleum Association of America

Prepared by: Pitts Energy Group, Dallas, TX

CHART 2

WILDCAT WELLS DRILLED BY INDEPENDENTS WILL FALL

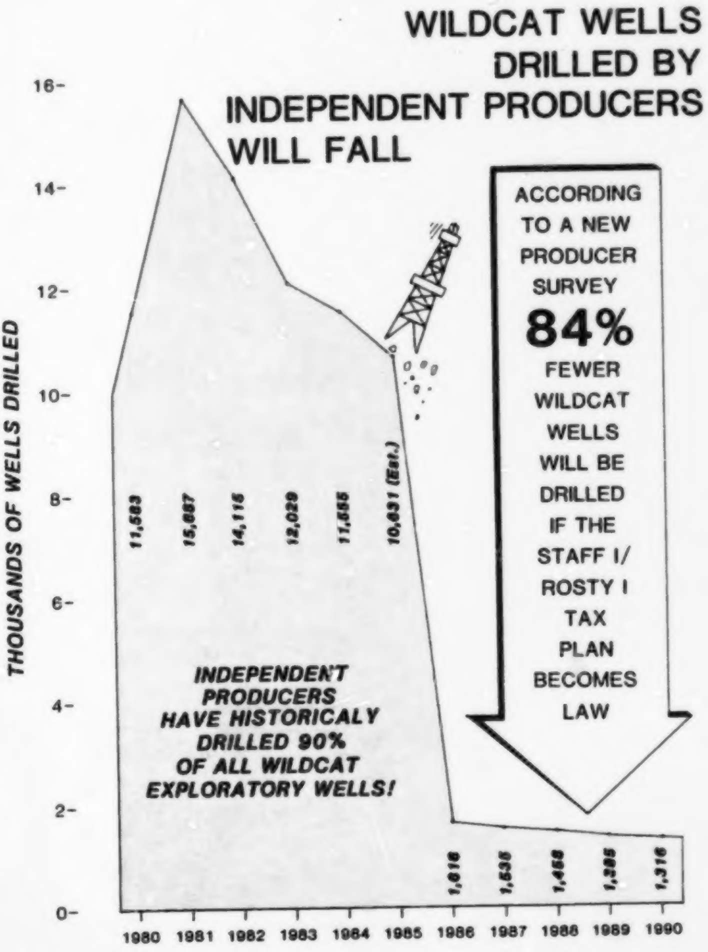
The primary finding of this chart is:

Should Staff I/Rosty I become law, independent producers who, historically, drill 90% of the country's wildcat exploratory wells will reduce their wildcat drilling from an estimated 10,631 wells in 1985 to only 1,616 in 1986, down to 1,316 by 1990.

Note: Dramatic declines in domestic wildcat drilling will, in time, substantially reduce development drilling. This necessarily follows because development wells are drilled on acreage where wildcat drilling has proven production exists. Producers will drill development wells only where required to maintain valuable leased acreage. Exploratory wells are the source of new reserves and of long-term future production.

Sources: Independent Petroleum Association of America
Producer Survey, Chart 5

CHART # 2



SOURCES: Independent Petroleum Association of America
Producer Survey: Drilling Activity & Staff I / Rosty I

Prepared by: Pitts Energy Group, Dallas, TX

CHART 3

THE NUMBER OF DRILLING RIGS IN OPERATION WILL FALL

The primary finding depicted on this chart is:

Should Staff I/Rosty I become law, the decrease in drilling by independent producers will cause the rig count to drop from an estimated weekly average of 2,307 in 1985 to only 348 rigs in 1986, and down to only 283 by 1990.

Note: The weekly average rotary rigs working in the country is already low, down from 2,452 as of October 1, 1984, to 1,935 as of September 30, 1985. It has been estimated that we need a weekly average of 3,200 to 3,500 rigs working in this country to discover sufficient new reserves to maintain imports at their current levels.

Calculations/Methodology:

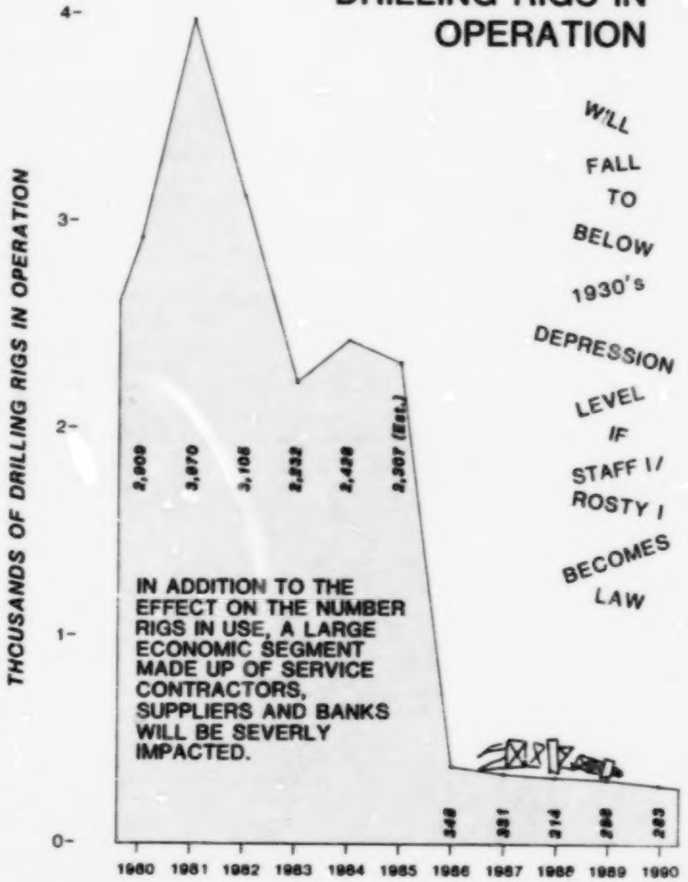
1. From 1980 through 1984, each operating rig drilled an average of 4.49 wells per year.

2. The decline in the number of wells drilled by independents depicted on Chart 5 divided by the 4.49 wells per rig yields the decline in rig count.

Sources: Hughes Tool Company
Producer Survey, Chart 5

CHART #3

THE NUMBER OF DRILLING RIGS IN OPERATION



WILL FALL TO BELOW 1930's DEPRESSION LEVEL IF STAFF I/ROSTY I BECOMES LAW

IN ADDITION TO THE EFFECT ON THE NUMBER RIGS IN USE, A LARGE ECONOMIC SEGMENT MADE UP OF SERVICE CONTRACTORS, SUPPLIERS AND BANKS WILL BE SEVERLY IMPACTED.

SOURCES: Hughes Tool Company
Producer Survey: Drilling Activity & Staff I / Rosty I

Prepared by: Pitts Energy Group, Dallas, TX

CHART 4

DROP IN DRILLING BY INDEPENDENTS

The findings depicted on this chart are significant; they also form the basis for dramatic findings regarding the increase in the U.S. trade deficit on Chart 6.

If Staff I/Rosty I becomes law, this chart depicts:

1. A decrease in drilling by independent producers of wildcat wells of **84%**, down from an estimated 10,531 wildcat wells in 1985, to only 1,616 in 1986, and down to 1,316 by 1990.

2. A decrease in drilling by independent producers of development wells of **68%**, down from an estimated 46,097 development wells in 1985, to only 14,013 wells in 1986, and down to 11,413 wells by 1990.

3. A decrease in total drilling by independents from an estimated 56,728 wells in 1985, down to only 15,629 wells in 1986, and down to 12,729 wells by 1990.

Assumptions:

1. U.S. demand (consumption) and product prices remain constant through 1990.

2. The estimated number of wells drilled in 1985 were based on decline curve estimates prepared by the Oil & Gas Journal. Wildcat and development drilling was estimated to decline by 8% and 3%, respectively, from 1984 to 1985.

3. In addition to the survey declines, projected drilling during 1986-1990 was expected to be reduced anyway by 5% per year reflecting current market conditions.

Calculations/Methodology:

1. The, historical, total number of wildcat and development wells shown were obtained from annual statistics compiled by the Independent Petroleum Association of America, as published in the September, 1985, edition of Petroleum Independent.

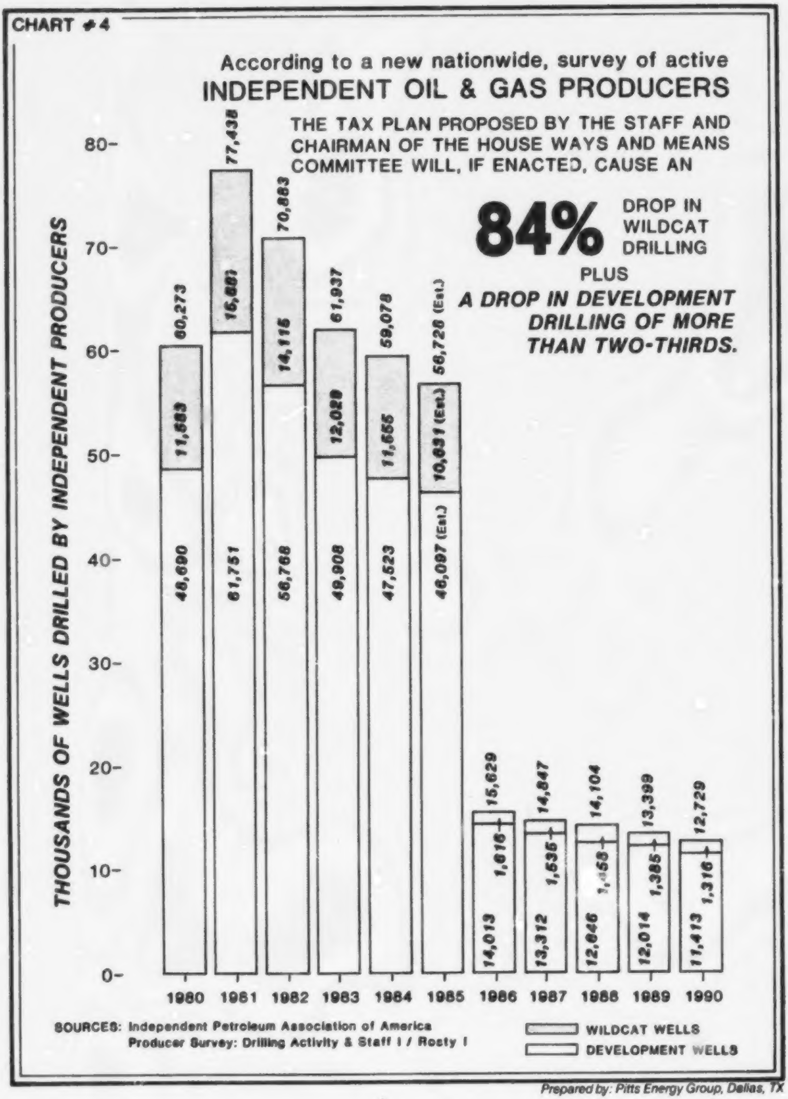
2. The number of wildcat wells used from this magazine was reduced by 10%, which represents wildcat drilling by major oil companies.

3. Likewise, the number of development wells was reduced by 14%, representing the wells drilled by majors.

4. The estimated decline in the number of wells that independents will drill in the first five years after Staff I/Rosty I becomes law was calculated by starting with the estimated number of wells to be drilled in 1985, reduced 5% for market conditions, and then declined 84% and 68%, respectively, for wildcat and development wells.

Sources: Independent Petroleum Association of America
Producer Survey

CHART #4



SOURCES: Independent Petroleum Association of America
Producer Survey: Drilling Activity & Staff I / Rosty I

Prepared by: Pitts Energy Group, Dallas, TX

CHART 6

REAL COST TO THE U. S. ECONOMY AND U. S. TREASURY OF OIL AND GAS PROVISIONS OF STAFF I/ROSTY I

The Joint Committee on Taxation has estimated that the oil and gas tax provisions of Staff I/Rosty I will result in a gain in revenues to the U.S. Treasury of approximately $11.3 billion for the period 1986-1990.

This chart depicts, however, a **LOSS** to Treasury in revenues for the period 1986-1995 of approximately **$81 BILLION**. The loss to Treasury for the period 1986-1990 would be $47.9 billion. This loss will arise as a result of lower oil and gas revenues available for taxation. These lower revenues will be caused by the tremendous decrease in domestic production due to the reduction in drilling caused by Staff I/Rosty I.

Note: The loss in tax revenue from the oil and gas industry, reflected in this chart, does not include reduced taxes paid by the contractor/supplier, etc. segments of the industry -- and further ripples in the economy, a reduction that would surely be significant.

This chart also reflects the increase in the trade deficit, some $231.3 billion for the period 1986-1995, over and above the current level of some $60 billion for imported oil. During the period 1986-1990, the additional trade deficit would be $136.9 billion. The additional imports are caused by the lack of U.S. production resulting from the drilling reduction predicted by the survey of independents.

The approximate $80.9 billion loss in taxes, plus the approximate increase in the trade deficit of $231.3 billion, totals some $312.2 billion. The first five-year total would be $184.8 billion. This $312.2 billion is the possible real cost to the U.S. economy for the years 1986-1995 of the oil and gas provisions of Staff I/Rosty I.

Sources: Producer Survey
Joint Committee on Taxation

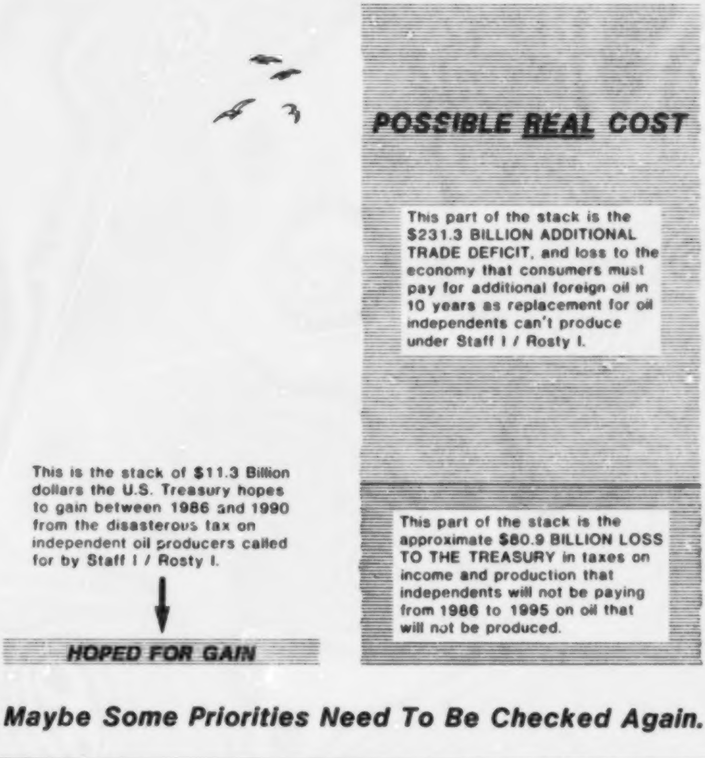
CHART #6

$11.3 BILLION

IS A LOT OF MONEY; A STACK OF $1000 BILLS 3,700 FT. HIGH. BUT IT'S A DROP IN A BUCKET COMPARED TO

$312.2 BILLION

WHICH IS A STACK OF $1000 BILLS OVER 20 MILES HIGH



This part of the stack is the $231.3 BILLION ADDITIONAL TRADE DEFICIT, and loss to the economy that consumers must pay for additional foreign oil in 10 years as replacement for oil independents can't produce under Staff I / Rosty I.

This is the stack of $11.3 Billion dollars the U.S. Treasury hopes to gain between 1986 and 1990 from the disasterous tax on independent oil producers called for by Staff I / Rosty I.

This part of the stack is the approximate $80.9 BILLION LOSS TO THE TREASURY in taxes on income and production that independents will not be paying from 1986 to 1995 on oil that will not be produced.

Maybe Some Priorities Need To Be Checked Again.

Prepared by: Pitts Energy Group, Dallas, TX

CHART 5

INCREASE IN U. S. TRADE DEFICIT

Should Staff I/Rosty I's tax provisions for the oil and natural gas industry become law, the resulting devastating drop in domestic reserves due to the drastic decline in drilling by independents for the first five years (1986-1990), and the tremendous necessary increase in imported oil will:

INCREASE THE PORTION OF THE U.S. TRADE DEFICIT ATTRIBUTABLE TO IMPORTED OIL, OVER AND ABOVE THE CURRENT LEVEL OF APPROXIMATELY $60 BILLION PER YEAR, TO APPROXIMATELY $230 BILLION OVER THE NEXT 10 YEARS.

Assumptions used in calculating the trade deficit:

1. Constant price of oil at $26.50 per barrel.
2. No growth or decline in U.S. demand.
3. That each well, on average, will produce for 10 years. Historical average decline curves of a typical well were used to help determine the number of barrels that would have to be imported each year to replace lost domestic production resulting from the anticipated decline in domestic drilling.

Calculations/Methodology:

1. In making the calculations, a five-year average (1980-1984) figure of new reserves found per well drilled of 44,141 barrels of oil equivalents was used.
2. The estimated number of wells that independents will not drill for the first five years after Staff I/Rosty I becomes law comes from Chart 5. This reduction in wells, multiplied by the 44,141 average, equals the amount of oil that must be imported during the ten-year period.
3. The number of barrels of imported oil required to make up the loss of domestic reserves was then multiplied by $26.50 per barrel (current average price of imported crude) to determine the increase in the trade deficit each year.

Sources: Producer Survey, Chart 5
Independent Petroleum Association of America

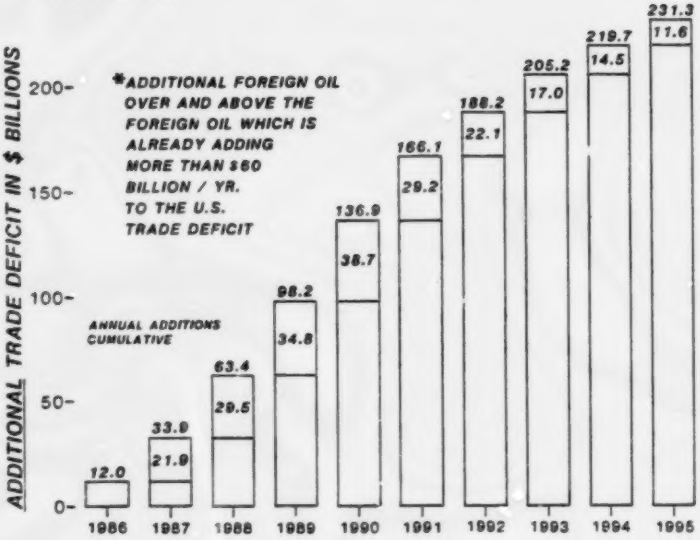
CHART #5

If the Staff I / Rosty I tax plan is enacted
and the drilling of new oil wells decreases
at the rate predicted by independent wildcatters,

***THE WELLS NOT DRILLED IN THE FIRST 5 YEARS
WILL CAUSE AN UNNECESSARY ADDITION*
TO THE U. S. TRADE DEFICIT OF OVER***

$230,000,000,000

IN 10 YEARS.



****ADDITIONAL FOREIGN OIL OVER AND ABOVE THE FOREIGN OIL WHICH IS ALREADY ADDING MORE THAN $60 BILLION / YR. TO THE U.S. TRADE DEFICIT***

BASED ON: (1) Producer Survey predicting 41,000 to 44,000 fewer wells per year
(2) 1980-1984 average discovery of 44,141 barrels of new oil reserves for every hole drilled - including dry holes
(3) 10 years life for reserves
(4) Staple price of $26.50 for imported oil until 1995 (All calculations are based on zero growth, with no changes in supply, demand or prices.

Prepared by Pitts Energy Group Dallas TX

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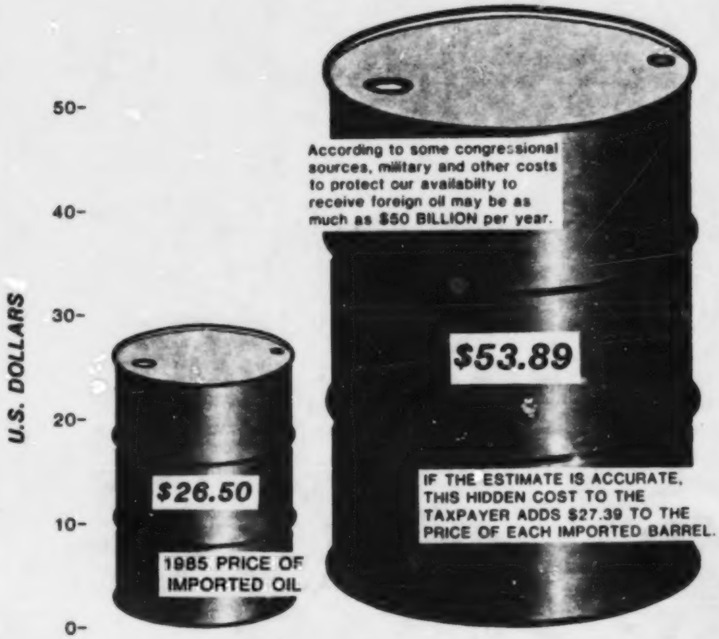
CHART # 7

WHAT'S THE *REAL* PRICE OF A BARREL OF IMPORTED CRUDE OIL?



According to some congressional sources, military and other costs to protect our availabilty to receive foreign oil may be as much as $50 BILLION per year.

IF THE ESTIMATE IS ACCURATE, THIS HIDDEN COST TO THE TAXPAYER ADDS $27.39 TO THE PRICE OF EACH IMPORTED BARREL.

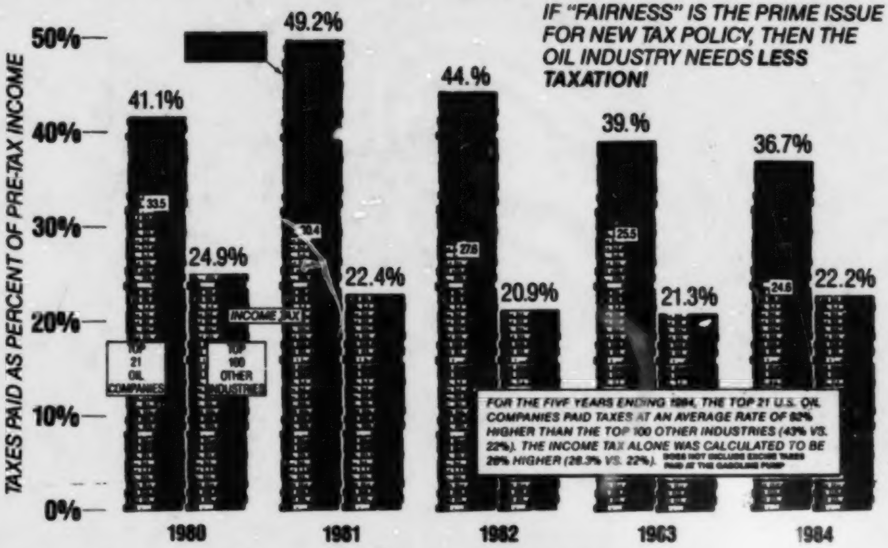
1985 PRICE OF IMPORTED OIL

Since domestic petroleum costs less than one half of the *REAL* (large barrel) cost of foreign oil, why would anyone want to discourage, rather than encourage the discovery of new domestic reserves?

Prepared by: Pitts Energy Group, Dallas, TX

What's all this talk about oil companies not paying their fair share of taxes?

THE OIL INDUSTRY PAYS A HIGHER EFFECTIVE FEDERAL TAX RATE THAN THE AVERAGE OF ANY OTHER U.S. INDUSTRY.



*IF "FAIRNESS" IS THE PRIME ISSUE FOR NEW TAX POLICY, THEN THE OIL INDUSTRY NEEDS **LESS TAXATION!***

FOR THE FIVE YEARS ENDING 1984, THE TOP 21 U.S. OIL COMPANIES PAID TAXES AT AN AVERAGE RATE OF 92% HIGHER THAN THE TOP 100 OTHER INDUSTRIES (43% VS. 22%). THE INCOME TAX ALONE WAS CALCULATED TO BE 29% HIGHER (28.3% VS. 22%). DOES NOT INCLUDE EXCISE TAXES PAID AT THE GASOLINE PUMP

Prepared by: Pitts Energy Group, Dallas, TX from data of Standard Poor's & Price Waterhouse; calculations by A.P.I., Washington, D.C.

Mr. **Fields**. One last question for Mr. Pitts. I represent an area that is a heavy manufacturing and fabricating area for the oil and gas industry. I am very disturbed by your chart No. 3 that basically says that the number of drilling rigs in operation will fall to below the 1930s Depression level if Staff's I/Rosty I becomes law.

Mr. **Pitts**. All I have done is put on the chart what 321 respondents said in answer to our question. And may I say this to that question? The number of wells that they will drill, a reduction in drilling, in order for—to be certain that people answering these few questions that we asked, the first thing we asked was, "Understand the Staff I proposal, Rosty I?" We sent a complete analysis of it along with the survey questionnaire. "And after you understand it, apply it as if it had been law in 1983 and 1984 and see what it would have done to your cash-flow in 1983 if it had been law versus the law that was in existence, the tax law, and again in 1984."

Then we said, "Next, had it been law in those 2 years, would it have affected your drilling of wells?" And last, we asked the question, "Now that you have answered the others, how, if it were law in the future, how will it affect your drilling, exploratory wildcat wells, what percentage, up or down, development of wells?"

And the answer of the 321 respondents, all we did was put it on a chart, and it drops like that [indicating], precipitous drop.

Mr. **Fields**. You certainly got my attention with that particular chart. Fifty percent of the people in my congressional district work for an energy concern, and we would be affected in a number of ways—our petrochemical companies, our maritime interests, our fabricators, our manufacturers. And that is a point that I think sometimes gets lost when people talk about energy, they think of people actually going out there and drilling the holes. But in Houston, TX, we would be affected in many different ways. It would be catastrophic.

I appreciate your bringing this to our attention.

Mr. **Pitts**. That certainly would be a catastrophic effect, and many banks as well and supply companies.

Mr. **Fields**. Thank you, Mr. Chairman.

Mr. **Hall**. Inasmuch as I would have been recognized next by Chairman Bryant had he stayed here, I will carry out his duties, and let me tell you that I started this morning talking about the array of talent that would be here, and I think everyone here is certainly convinced that we have had the great array of talent.

I concur in Chairman Bryant's statement of our appreciation for the jobs that are afforded that afford men and women in all stations of life to have the necessities and keep the pump primed, support their church, and support our free-enterprise system.

That is a statistic that is missing here today. We have had almost every other one, but I would like to see that statistic: Just exactly how many jobs, just the panelists and their families and their concerns and the Charlie Perrys of the world and, of course, the Frank Pitts and others of you here—people that you aid in giving them a job. And that is what makes these wheels go round up here.

I am grateful to you, and I know this panel is. Missing from the panels are the little bitty people that are affected because they cannot afford to be here, and I think it should be noted that you are paying your own way and taking time from your business to come here and give us this time once again, for which we are very grateful.

I want to ask probably Commissioner Wallace or Frank Pitts. We have talked here about the crisis situation that we find in the oil and gas industry today, partly beause of the indecision of the Ways and Means and the threat that is held over us. And most of you know legislation takes a long time, sometimes forever.

In the absence of legislation, is there anything that the executive branch can do or ought to do to give some kind of a boost or shot in the arm to the domestic energy, Mr. Pitts?

Mr. **Pitts**. I would say withdraw support from this so-called tax reform bill that is being written in the Ways and Means Committee.

Mr. **Hall**. That would be a nice first step, wouldn't it?

Commissioner Wallace.

Mr. **Wallace**. Congressman Hall, this Nation is apparently without a national energy policy. One of the first balloons that we had some problem was in the month of October 1983. The Houston Post carried a story that had the screaming headline, "White House Abandons the Goal of Energy Self-sufficiency. U.S. to Depend on Arab Oil."

And I would imagine that that coupled with the first administration proposal where one member of the Treasury Department was addressing a group I happen to be a member of looked at that group of independents out there and said, "What you people are going to have to do is learn how to be more efficient."

And this fellow stood up, and he obviously had been in the business for a number of years and his old hands were all broken, and he raised his finger and said, "Well, tell me this, how does a 12-barrel-a-day well in Oklahoma compete with a 30,000-barrel-a-day well in Saudi Arabia produced off a Government lease? And you can add Russia to that, the same thing."

What we need the Executive to do is look back through the years and find out what the former Secretaries of energy, former Secretary of the Treasury, former Defense Secretaries, other former Cabinet officials have said about the strategic interests of the production of oil and gas, and recognize that it is a strategic industry and it is one that we must have if we are to remain a player in the international game.

So I would say that the executive could go back to our goal of energy self-sufficiency and which we certainly are capable of achieving. That is one place they could start.

Mr. **Hall**. I think my time has expired.

Mr. **Bolger**. I would like to add one quick comment. Yesterday there was a quote in the Wall Street Journal that was a quote of Charles McClure, Deputy Assistant Secretary of Treasury, who said, "A simplified, more equitable system is no longer a goal of the tax debate."

Mr. **Hall**. I recognize the gentleman from Louisiana.

Mr. **Tauzin**. We are talking tax policy. Everything that we have heard today is that the movement of Rosty and Treasury I in the area of eliminating incentives for the oil and gas community is bad tax policy, eliminating the incentive shows that you won't have the drilling or production. And then we have the foreign dependence.

But there is a sacred cow we have not touched, and maybe we ought to talk about it.

When you look at the U.S. policy in regard to the production of oil as opposed to the policy which permits such a heavy reliance upon imports, a growing reliance in terms of domestic and foreign policy, you find out that we heavily tax the production of oil in this country. We put a windfall profit tax on it. Even with the incentives that are discussed, the previous panel indicated that there is a 27-percent share of the tax paid by the industry for 21 percent of the income, obviously a heavier tax than that normally attributed to other industries in our country.

Yet, on the other hand, with countries who produce in the Middle East to Aramco, we give a major tax credit, called the foreign-income tax credit, which is a way, in effect, the United States company subsidizing the foreign ventures of oil companies who want to produce over there instead of here.

Now, if I am an oil company big enough to do business over there instead of in the independent area that most of you work in or are associated with or have discussed today, I have a choice of producing oil in this country, where I am going to pay a heavy windfall profit tax even with the current incentives which are threatened, where they are producing in the Middle East where I am going to enjoy the benefit of a foreign-income earned tax credit provided by the United States, what on Earth compels me to decide to produce here in America? You should tell me why I would be interested in producing here instead. If I import the oil, I do not pay the windfall profit tax.

Mr. WALLACE. I can comment, but I cannot answer the question. That is part of the energy policy that I say we do not have. It is atrocious.

Mr. TAUZIN. We discourage production here and encourage production elsewhere. That is the current state of the law without the erosion of whatever incentives exist in the current Tax Code.

Mr. Bolger.

Mr. BOLGER. I am pleased to hear you say that because I think that that is something that really should be considered. And naturally, there are not that many small independents who are exploring or producing overseas. So let the shoe fall where it may.

Mr. TAUZIN. I know you are reluctant to talk about your colleagues in the business because—you know, we don't often speak ill of each other in this body.

I understand that sensitivity. But we are talking national policy. You have addressed the issue.

Mr. WALLACE. I will address what you have said. It is my belief that the multinationals can make 30 percent on their investment overseas and that domestic production producers can make 12 on the average domestically. It might be an article of corporate mismanagement to draw a well in the United States if they can make 30 percent with the same money overseas, I don't know.

But numbers are numbers, profit is profit. That is the policy that we presently operate under in this country, obviously. The windfall profit tax is the highest tax ever passed by a Government either in peacetime or wartime in the world.

Mr. TAUZIN. And it is not applied to imported crude, only domestically produced crude, which is an open invitation to quit producing here and go produce somewhere else.

Mr. Eisenstat, you touched on the foreign-policy implications with the State of Israel with regard to our dependence upon the states in the Middle East. That bears some discussion, too.

If we go further than we have already gone in terms of encouraging foreign production and imports, if we produce the results that Mr. Pitts's survey indicates, a dramatic reduction to about 11 percent dependency on domestic production and almost total production in the Middle East, is there any doubt that our foreign-policy relationships in the Middle East would have to shift dramatically? Our support for the State of Israel would be seriously threatened.

Mr. EISENSTAT. I believe that is true, although I hope by some miracle it would not happen, but I am convinced, and that's why we are here. That's why we're here, and that's why we have joined together with the independent oil and gas producers. We feel so strongly that it is in America's best interest that Israel be strong and that if we have to bow to the petropolitics, we will not be able to follow what is in our otherwise best interest.

Mr. TAUZIN. It is a holy union when we can bring New York and Texas together. I am delighted.

Mr. EISENSTAT. This morning your airport was closed and there was only one bridge to come over. It wasn't easy.

Mr. TAUZIN. It is also a fact, and we ought to mention it, too, that when oil prices have been set on the world community, when production levels have been fixed on the world community, when OPEC had that capacity, there was some question about how much it has today, how much we are doing to ourselves instead of having it done unto us.

But when it had that capacity, the ministers meeting in Geneva were not executives of oil companies as we see before us in these panels. They were Government officials' meetings, fixing quotas for production, fixing prices on the marketplace, penalizing one another when they violated using the weapons of foreign-policy pressures to intimidate even the Soviets now and then, in reference to how much production is loosed upon the world in order to influence the prices. And yet we in America still depend upon free-enterprise companies to produce here and penalize them when they do, and threaten even further to take away what minimum incentives exist in our society for their very survival.

It seems to me we are on a collision course with some awful implications for our foreign policy. We should mention it, Mr. Pitts, Mr. Hall has alluded to it. It is not just a question of foreign relations and our foreign policy, it is jobs in America. $230 billion added to the trade deficit equates to 5,750,000 American jobs—an incredible impact upon our economy if that were to come true.

So we are on a collision course with an economic disaster, a foreign-policy shift that could be awful for the implications of our relationships with friendly governments around the world, and a dependency upon those who are the least reliable on the world scene for a basic and strategic commodity that you point out, Mr. Wallace, that we seem to forget about when we talk about formulating a single tax policy. And that is a dramatic implication.

I have used up more than my time, but I do appreciate it.

Mr. WALLACE. I would like to make one 30-second statement in connection with what you said, Congressman. The numbers I gave you on natural gas indicate late 1986, early 1987 we will be in a critical situation with the natural gas supply. The Saudis read the same numbers we read.

In April 1984, at Cairo, Yamani made a speech, and in that speech he threatened to use Arab oil as a political weapon in 1987. He is getting ready, and he is telling us, and he is looking at the same numbers that we are looking at. All you have to do is look at the gauge. The gas gauge is going down. When it's down in 1987, they are going to introduce you to what they introduced us to the first time in 1973. And that's what this 433 billion barrels of oil in north Africa and the Middle East means. That's what we're talking about.

Mr. TAUZIN. It isn't as if we are not without experience.

Mr. WALLACE. In east Texas they tell us, "Fool me once, shame on you. Fool me twice, shame on me." I don't want to be fooled a second time.

Mr. HALL. Like jumping off a 50-story building and not hollering help until you pass about the fourth floor.

Mr. WALLACE. And you're still in good health until you strike the concrete.

Mr. BRYANT. I recognize the gentleman from Alabama for 5 minutes.

Mr. SHELBY. First of all, I want to tell you that the hearing has been very interesting. I have talked with Mr. Eisenstat about a month or so ago, and he talked with me briefly about what your group was trying to put together, and it makes a lot of sense.

I do not believe you can really have security in this country if you do not have energy independence. There would never be any security. You will be tied, or we will be tied, in some way to the Middle East and to the politics of the Middle East and to the various whims of the Middle East, and all you have to do is get the map of how far Afghanistan is from the Middle East and all of the oil reserves—and it is all reachable by land—to see the Soviet Union's interest over and above the present political interests and terrorism that is coming out of there.

Another thing that I thought I would touch on again that Mr. Pitts talked about, we have got to have incentives. I do not know anybody that accomplishes anything without incentives. We talk about market forces working. Market forces will not work in any area. That's what incentives is all about: you get something distributed, you drill for something, you explore for something, you invent something.

All tax bills—and I agree with the—I hope I agree, and I hope it comes true—with the gentleman from Texas, Mr. Fields. I think that the tax bill is in trouble, but it is not dead. It's not bleeding yet, but it will devastate not only your industry, but it will knock out the incentives that Mr. Pitts alluded to. We take away the incentives, you're looking for investors, you're taking risks, you will be looking elsewhere.

But who is going to suffer? Sure, you will suffer as individuals, we will. But this Nation will suffer, and that is why you are here today, among other things. I know we all have a first-person singular interest in things, but we also have a thread of fabric that runs through all of us, energy independence.

It was brought up earlier, too, that this administration said that we have no energy policy. I believe this: They said we are going to rely on the free market. You destroy the incentives, and you will not have a free market. That will be the end of it.

But I do want to commend all of you here for bringing this out. Mr. Eisenstat, I mentioned earlier, says we do have a lot in common for energy security, which is national security, and instead of taking away these incentives in a tax bill, we ought to be saying, "What is it going to take to encourage you to seek out not only in Texas but in my home State of Alabama"—as you know, we are coming on line—"what it takes for energy independence, oil/gas," because I believe it is here.

But it is costly, and you are not going to get it unless you pay for it because people are not going to invest.

I appreciate you gentlemen appearing.

Mr. Pitts.

Mr. PITTS. May I make one additional statement?

Mr. SHELBY. Yes.

Mr. PITTS. It will be costly if we get it here, that's true. But it will be a hell of a lot more costly if we become entirely or practically entirely dependent on foreign sources for our oil. We are already currently. Foreign oil is costing us in this country almost twice as much per barrel as we are getting for the oil found and produced in this country.

Mr. SHELBY. Not only that, but as you well know, we are exporting our capital to pay for it.

Mr. PITTS. No question about it. Look at chart 7—it is not on the survey, but I put it in here—on the price per barrel of imported oil we are currently importing. Now, half of it is hidden in taxes to pay—to keep the sealanes open in order to have access to the oil. But foreign oil in tax money and in dollars paid for the oil itself, which is the same as we pay for oil here, that imported oil is costing Americans roughly twice what a barrel of oil found and produced in this country is costing.

Mr. SHELBY. I know that oftentimes you come up here, all of you, and you have to, and you have to consider who is my real enemy? If you look around, it is the Government, the Federal Government is your real enemy, because the people that come with tax bills that are going to take away your incentives not only individually but it goes on to the fabric of national security, you've got to say, "We have met the enemy, and it is us."

Thank you, Mr. Chairman.

Mr. HALL. Thank you, Congressman Shelby.

The Chair recognizes the gentleman from New Mexico, Mr. Richardson.

Mr. RICHARDSON. Thank you, Mr. Chairman.

I think that any questions I would ask after this hearing would be redundant. But I would like to state my personal thanks to all of the witnesses for sharing their views with us.

In particular, if I can be specific there without offending the other witneses, I want to especially welcome Mr. Bolger, who represents all of the Permian Basin and eastern New Mexico, and Mr. Frank Pitts, who was here testifying at my request, although I know he is also a good friend of the chairman and many others.

I would like especially to commend Mr. Pitts. Every time we need accurate data, he comes up with a superb survey. And I remember his doing that last year, and I think the statistics that you have shown in terms of the impact are very, very marked and outstanding.

Mr. SHELBY. If the gentleman would yield?

Mr. RICHARDSON. I yield to my colleague.

Mr. SHELBY. I want to commend the gentleman from New Mexico for offering his leadership again in the deregulation effort. He mentioned it earlier today that a lot of us who are on the bill were trying to do it. Not only do I believe, as the gentleman from New Mexico also I think believes, we should deregulate, we should give the tax incentives, too. That is the only way we are ever going to achieve the independence that we are talking about here.

Thank you.

Mr. RICHARDSON. I thank my colleague, and I want especially to thank his leadership, Mr. Shelby. I think he provided some critical votes for us last year, and I think if we ever face this issue in our Energy and Commerce Committee, I think the numbers would favor us is we can ever get control of the gavel.

So I would submit to the chairman that maybe he ought to do some quick work at this very moment. We might be able to be helpful.

I yield the balance of my time, and I once again thank the witnesses.

Mr. HALL. I thank the gentleman from New Mexico for the good work he does.

Before the panel leaves, you know, we are bad up here about tabbing or labeling something, and the press I think helps us in that. From time to time certain issues pick up misleading names. Like star wars indicates an aggressive effort when really it is simply a defense for this country.

"Intangible drilling costs" is another, and I think, Mr. Pitts, since we have pedestalized you here on many occasions, we will let you be the one that explains that for the density of some of the members who will be voting on it. Just what is meant by intangible drilling costs, and what analogous tax provision would be in business other than oil and gas that would be called an intangible cost? I think that is an important message to send to the Ways and means Committee and the chairman.

Mr. PITTS. It certainly is. There is a misnomer, I think, about the words intangible drilling costs. Most people do not understand what it really is. It is the cost of drilling a well—period.

Now, I firmly believe that many people in Congress believe that—and I have heard them on panels also ask questions—intangible drilling cost is some type of fictitious chargeoff for the oilman. It is not. It is cash on the barrelhead, paid for services rendered in the drilling of a well.

To me, it is no different from farming. And I grew up on a farm until I was 21 years of age. A farmer, for example, buys seed and fertilizer, and if he does not do all of his work, he hires work to help him make his crop. That is an irrecoverable expense, and he charges it off in the year in which he pays for it.

Now, our so-called intangible drilling costs is no different than that. It means that we spend money to prepare the location, to drill the well, move a rig in, have fuel, pay for fuel to run the rig and labor to run the rig, and the cost of the rig while it is on location. Those types of expenses are irrecoverable expenses, and therefore should, currently are, and should definitely continue to be charged off in the year in which the expense is realized and the money paid for the services rendered of the drilling of the well.

On the other hand, equipment that we put in a well, like casing, is casing, pumps, tanks, and service equipment. That type of equipment is tangible. It is capitalized, and it is amortized over a period of years. The same as a farmer who has a tractor—we did not have tractors when I was a kid, but nevertheless, today they do—the farmers that have tractors and hay bailers and all of this type of equipment, that is capitalized and amortized over a period of year.

So our business is no different to me than farming, and I can go on and illustrate others if you wish to. But that to me is the simple, plain, unadulterated truth.

Mr. Hall. I think that clarifies it, and that is in the record, for which I thank you.

Mr. Shelby. Mr. Chairman, my last comment.

My perception from four terms up here in the House is that a lot of people from non-oil-and-gas-and-coal-producing areas perhaps do not understand—or maybe do not want to understand—Mr. Pitts, and like you just explained just a second ago, the difference between tangible costs and intangible costs. And I think you did a good job there. And the chairman, Mr. Hall, and some of us have been trying to do that for a number of years, say there is no difference in operating to some degrees your basic costs of oil and gas and coal and everything else than it is in the other business because those are bona fide business expenses that should be expensed rather than depreciated. You know, you take it then because they are not something that you can depreciate like a tractor or a rig, whatever it is.

Thank you, Mr. Chairman.

Mr. Hall. We want to thank this panel and to tell you not to gauge the interest of the members by their attendance here, because you are not speaking to the members of this committee, your speeches will go to the Ways and Means Committee, you are talking for the record, and that is very important to us.

I might also add that we do have the energy consultants, these young men and women who are on our rights and lefts here that are actually the heartbeat of this subcommittee and any other committee.

So thank you for your time, and we appreciate once again the many good things that you are doing for the the thrust of energy in this country.

Mr. Hall. We will have our last panel: Daniel Scherder, Curtis Mewbourne, Thomas Merritt, and Robert Phillips.

At this time we will recognize Daniel B. Scherder, vice president, financial administration, Peabody Holding Co., Inc., here representing the National Coal Association.

We recognize you for 5 minutes.

STATEMENTS OF DANIEL B. SCHERDER, VICE PRESIDENT, PEABODY HOLDING CO., INC., ON BEHALF OF THE NATIONAL COAL ASSOCIATION; CURTIS W. MEWBOURNE, PRESIDENT, MEWBOURNE OIL CO.; THOMAS C. MERRITT, PRESIDENT, MERRITT TOOL CO., INC.; AND ROBERT G. PHILLIPS, PRESIDENT, EASTERN GAS TRANSMISSION CO.

Mr. SCHERDER. Mr. Chairman, my name is Daniel Scherder. I am the vice president of financial administration for Peabody Holding Co., which is located in St. Louis, MO. We are the parent company of Peabody Coal, which is the largest coal producer in the United States. I am also the vice chairman of the tax committee of the National Coal Association, on whose behalf I am appearing today.

We commend you and the subcommittee for conducting this hearing, and we appreciate the opportunity to express the coal industry's concern about the impact of these changes. You have heard from the oil people. I would like to give you coal's impression of these tax proposals.

The National Coal Association has engaged the firm of Price Waterhouse to conduct a confidential survey and analysis on the impact of the President's proposal and the Ways and Means proposal. The survey included responses from coal producing companies representing approximately one-half of the production in the Nation. My testimony today will summarize the results of both of those studies.

We would also ask your permission to submit for the record copies of the Price Waterhouse studies.

Mr. HALL. Without objection. [See p. 953.]

Mr. SCHERDER. For reasons that remain indiscernible to us in the coal industry, both the tax reform plans submitted by the President and the measure prepared by the Ways and Means Committee staff appear to single out the coal industry for especially harsh treatment. I doubt very many industries can expect to bear tax increases larger than those being imposed upon our industry.

In the first 5 years, even while some of the harshest provisions are being phased in, the tax burden on the coal industry would be increased by 45 percent under the administration's plan and a whopping 73 percent under the Ways and Means proposal.

To understand the potentially crippling effect of these enormous increases on our industry, one must have an understanding of the nature of the coal business. The coal industry can be characterized as being intensely competitive, highly capital intensive, requiring long leadtimes and very high risks, and yet it is only marginally profitable.

Moreover, the majority of U.S. coal production is marketed under medium- and long-term contracts. This is an extremely important factor in considering the impact of tax law changes, as I will explain later in my testimony.

One other very important factor is the extent of specific taxes paid by the coal industry, taxes which are not included in the Price Waterhouse study, nor do we believe they were taken into account by the drafters of the various tax reform proposals.

In addition to Federal income taxes, the coal industry pays severance taxes, property taxes, and business interest taxes in the States in which we operate. In addition, we pay royalties and rental fees to the Federal Government on production of coal from Federal lands. We pay excise taxes to the Federal Government on each ton of coal produced. Specific taxes are paid to a fund to reclaim abandoned land and to finance the Black Lung Benefits Program. These last two excise taxes I mentioned alone amount to over $800 million per year in taxes.

While the figure for all of these specific taxes in total is difficult to estimate, it amounts to billions of dollars per year for the industry. Moreover, the administration has proposed, and the House Ways and Means Committee has recently voted, to increase the black lung excise tax by 50 percent on the coal industry. This amounts to an increase of $1.5 billion over the next 5 years.

The basic thrust of the President's tax proposal is aimed at the elimination or reduction of so-called incentives which have been built into the Internal Revenue Code over a long period of time. The idea was that the loss of these seemingly complicated special provisions would be equalized by reduction in the overall corporate tax rate. That theory may have worked for some industries, but for the coal industry tax neutrality did not result.

In theory, the loss of the investment tax credit in certain preference items was supposed to have been offset by the reduction in the corporate tax rate from 46 to 33 percent. In reality, within the coal industry, at least, the loss of the investment tax credit alone almost equaled the entire proposed reduction in corporate rates. When you couple that with the so-called depreciation recapture provisions in the administration's proposal, the repeal of ITC far exceeded the benefits of the reduced rate, and that meant that the other changes, the repeal of percentage depletion, all resulted in net tax increases in the coal sector. In fact, the loss of percentage depletion alone equals all of the benefits of the reduced corporate rate.

The original Treasury proposal attempted to justify its unfair impact on the coal industry by indicating that coal miners might be better employed elsewhere.

Mr. Chairman, coal mining is essentially a rural enterprise. It occurs in or near small communities where often coal production is the principal economic activity and the major source of jobs. Our miners are proud, hard-working people who have strong ties to their communities. Many come from a long tradition of coal miners. They are not easily uprooted or economically redirected by someone's version of social planning. The history of Appalachia is evidence of that.

For the 5-year period 1986 through 1990, according to the Price Waterhouse study, the administration's proposal will result in an increased tax bill of over $1 billion on the coal industry, a 45-percent increase. The repeal of percentage depletion alone would result in an increase of $904 million in taxes, the repeal of investment credit, $820 million, and the recapture of benefits due to excess depreciation in excess of $200 million.

Yet, the decrease in the corporate tax rate equals only $900 million.

The true impact, however, is even greater than that. When fully phased out, the loss of percentage depletion alone will amount to more than $350 million per year in increased taxes by 1990.

Moreover, for every point the corporate tax rate rises from the originally proposed 33 percent, the coal industry will pay an additional $70 million over 5 years, and as you know, the Ways and Means Committee is now discussing rates of 38 percent and looking at raising it even more.

As concerned as the coal industry was about the administration's proposal, we now find the so-called staff options of the Ways and Means Committee are even more onerous for the coal industry than the President's proposal. Changes in depreciation, recapture of mining development expense, the phaseout of percentage depletion in 3 rather than 5 years, raises the 5-year tax differential of the administration's proposal from $1 to $1.6 billion, resulting in a 73-percent increase in taxes to the coal industry.

Mr. Chairman, the effect of these tax increases goes beyond the simple balance sheet, results that are evidenced in the Price Waterhouse study. The withdrawal of capital from the coal sector in the magnitude of these proposals can have long-term consequences. Ours is essentially a cost-driven industry. Margins are very slim on coal. In fact, in real terms, coal prices have declined steadily since 1975 at the mine level. Under current tight-market circumstances, coal industry prosperity depends largely on cost control and improvements in productivity.

Since 1979 productivity has begun to improve markedly. This is primarily due to investments in new and more efficient mines and investment in new equipment at existing mines. The money for these productivity investments has come largely from retained earnings. If this source of capital is lost or reduced due to a dramatically increased tax burden, our industry will face a period of higher coal prices, lower profitability, and slower growth.

In addition, there are transition problems with the tax bill in the coal industry. The majority of coal marketed in the United States is sold under long-term contracts, some as long as 30 years. Transition rules which are normally applied to tax changes have minimal benefit to the coal industry because of these long-term coal supply agreements. Our agreements do not allow for a change in price if general tax provisions are increased. As a result, an increase in the industry's tax bills will likely result in a sharp decline in profitability in the industry.

A 3- or even 5-year phaseout of percentage depletion has little meaning if you are selling coal under 10-, 20-, or 30-year contracts.

If pressed to choose one single feature of this proposal or the Ways and Means proposal, which is the most crucial to the coal industry, there is no doubt that it would be repeal of percentage depletion. This is the most important and perhaps the least understood tax provision affecting our industry. No single change in the Tax Code would damage the economics of coal mining more than elimination of percentage depletion.

Under current law, taxpayers are allowed to deduct for depletion of their coal reserves. The deductible amount is the greater of cost depletion or percentage depletion, which is limited to 10 percent of the gross income or 50 percent of the taxable income of the property.

However, we must reduce the percentage depletion by 15 percent as a result of the 1981 tax law change and a portion of the deduction is counted as a preference item under the add-on minimum tax rules.

Percentage depletion was originally created to encourage exploration and development of new reserves to replace those being depleted. However, percentage depletion is more fundamental today. When a manufacturer constructs a plant, he can replace that facility when it wears out with a building of equal or better utility. Essentially, he is dealing with an asset of renewable value.

However, when a mining company invests in a facility—a mine with a certain quantity of reserves—there is a finite limit to the utility of that investment, that is, the extent of the reserves. You are dealing with a wasting asset which is not renewable. If you want to replace that asset, normally it will be replaced with a reserve of lower quality which is more difficult to mine and therefore will be substantially less valuable.

Percentage depletion is designed to give the producers of essential depletable raw materials tax parity with the manufacturing sector of the economy, which is not subject to the finite limits of nature as we are.

Mr. Chairman, the Price Waterhouse study indicates that almost 90 percent of the net negative impact on the coal industry is attributable to the repeal of percentage depletion. The very provision which was designed to give the mining industry parity with other sectors of the economy, the provision which equates in magnitude to the intangible drilling cost deduction of the petroleum sector and which I might add was retained in the administration's proposal, is now proposed for repeal.

Moreover, it would be repealed at a time when the coal industry cannot, for competitive and contractual reasons, make price adjustments to offset this loss.

On behalf of the National Coal Association, I appreciate the opportunity to appear before the subcommittee, and we thank you for your attention to this critical issue facing the industry. I would be happy to answer questions.

[The following document was submitted:]

THE ECONOMIC IMPACT OF THE WAYS AND MEANS STAFF OPTIONS ON THE COAL INDUSTRY

The Ways and Means Committee Staff Options for tax reform represent a dramatic departure from current law with regard to many of the tax items that are of major importance to the coal industry. The following is an update to the Price Waterhouse report The Economic Impact of the President's Tax Reform Proposals on the Coal Industry, September, 1985. This paper briefly discusses those sections of the Ways and Means proposal that have an impact on the coal industry along with an analysis of the projected cost of each individual proposal and the proposals taken as a whole. For a detailed explanation of the methodology used in this study, please refer to the earlier report.

Results of the Analysis

Table 1 presents projected tax liabilities under both current law and the Ways and Means proposals. The change in tax liability over the five-year period from $2.2 billion under current law to $3.8 billion under proposed law represents a projected 73% increase in taxes for the coal industry if these proposals are enacted. The annual increases range from 36% in the first year to nearly 100% in 1989. While the projections end at 1990, it is likely that future tax liabilities will be closest to those projected for the later years.

Five-year totals of the estimated changes in tax liability atributable to each provision of the Ways and Means proposals are

TABLE 1

PROJECTED TAX LIABILITIES
PRESENT LAW AND WAYS AND MEANS STAFF OPTIONS
U.S. COAL INDUSTRY - 1985-1990

($ millions)

	Current Law	Proposed Law	Difference
1985	422.6	N.A.	N.A.
1986	443.2	603.3	160.1
1987	430.7	676.8	246.2
1988	427.5	794.7	367.2
1989	431.6	858.9	427.3
1990	470.4	884.0	413.6
1986-1990	2,203.4	3,817.8	1,614.4

NOTE: Details do not add due to rounding.

shown in Table 2. The total increase of over $1.6 billion during the period 1986-1990 is the net effect of nine specific changes in tax law.

The year-by-year effects of each individual proposals can be found in Table 3. Five of these changes account for the largest share of the tax increase projected for the coal industry. These are (1) the phase-out of percentage depletion allowances over three years, (2) the reduction in the corporate tax rate from 46% to 35%, (3) the change in depreciation systems from the Accelerated Cost Recovery System to the Incentive Depreciation System, (4) the recapture of mining development expenses when a mine begins production, and (5) the repeal of the investment tax credit.

One way to assess the impact of the Ways and Means proposals on the coal industry is to divide the proposals into two categories, those which affect all industries in general and those which specifically affect extraction industries. The three items that directly affect the taxation of extraction industries are (1) the repeal of percentage depletion, (2) the recapture of mining development expenses, and (3) the change in treatment of Section 1231 income. The total impact of these items is estimated to be about $1.56 billion; in other words, those items that are mining specific account for nearly all of the tax increase of the coal industry.

Percentage Depletion. The repeal of percentage depletion alone accounts for the majority of the tax increase that will be borne by the coal industry. Over the five-year period, the loss of percentage depletion allowances is projected to cost over $1.4 billion. The three-year phase-in of the repeal has the effect of alleviating the impact of the proposal in the first two years, as

TABLE 2

SUMMARY OF PROJECTED FIVE-YEAR CHANGES IN TAX LIABILITIES, DUE TO WAYS & MEANS STAFF OPTIONS

U.S. COAL INDUSTRY

($ millions)

Provision	1986-1990
Change in Depreciation Allowance	$ 262.2
Repeal of Percentage Depletion	1,425.3
Dividends Paid Deduction	-9.0
Change in Treatment of Capital Gain on Deprecible Assets	24.1
Recapture of Mining Development Expenses	100.1
Change in Treatment of Royalty Income	40.1
Decrease in Corporate Tax Rate	-1,083.9
Repeal of Investment Tax Credit	858.0
Change in Corporate Minimum Tax	-2.6
TOTAL DIFFERENCES	$1,614.4

Note: Details may not add to totals due to rounding.

TABLE 3

CHANGE IN TAX LIABILITY DUE TO WAYS & MEANS STAFF OPTIONS, BY PROVISION,

U.S. COAL INDUSTRY

($ Thousands)

	1986	1987	1988	1989	1990	Five-Year Total
Change in Depreciation Allowances	15.9	10.4	38.4	74.2	123.3	262.2
Change in Depletion Allowances	116.4	197.2	352.2	336.0	423.5	1,425.3
Dividends Paid Deduction	0.0	(0.3)	(1.7)	(2.7)	(4.3)	(9.0)
Change in Treatment of Capital Gain on Depreciable Assets	0.0	3.2	4.1	7.0	9.8	24.1
Recapture of Mining Development Expenses	0.0	24.7	48.1	20.6	6.7	100.1
Change in Treatment of Royalty Income	1.0	2.0	3.3	16.5	17.3	40.1
Decrease in Corporate Tax Rate	(125.7)	(159.4)	(234.9)	(244.0)	(319.9)	(1,083.9)
Elimination of Investment Tax Credit	95.9	124.4	195.1	228.6	236.0	880.0
Change in Corporate Minimum Tax	58.7	44.0	(17.3)	(9.0)	(81.0)	(4.6)
Total Differences	160.1	246.2	387.2	427.3	413.6	1,634.4
Percentage Change	30.12%	37.14%	45.09%	49.08%	47.93%	73.27%

NOTE: Details do not add due to rounding.

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the cost of this proposal is over three times greater in the last two years of the projection period than in the first year. The amount of depletion deductions claimed is projected to fall from nearly $1.6 billion to approximately $250 million in 1990.

Mining Development Expenses. The Ways and Means proposals call for the recapture of mining development expenses when the mine is brought into production. The expenses will then be amortized over a three-year period. During the projection period this proposal is expected to cost the coal industry $100 million, with the majority of this additional tax burden being realized during the second, third, and fourth years. After the first three years of recaptured expenses, this proposal essentially creates a timing difference with a small net effect, as evidenced by the projected cost of this proposal of only $6.7 million in the last year.

Section 1231 Income. Royalty income earned by coal companies would no longer be taxed at preferred rates under the Ways and Means proposals. The current preferred rate of 28% would be phased out over three years with rates of 30%, 31%, and 32%. Section 1231 income would be taxed at ordinary corporate rates in years beginning after January 1, 1989. The effect of this proposals is to increase taxes over the five-year period by $40 million. During the first three transition years the effect is minimal, after which the projected increase in taxes due to this proposal is expected to be $16-17 million annually.

The other three major items that affect taxation of coal companies are those which have an impact on companies in general. These proposals are (1) the change in depreciation systems, (2) the decrease in corporate tax rates, and (3) the elimination of the investment tax credit. The aggregate of effect of these three proposals is nearly revenue-neutral with regard to the coal industry over the period 1986 to 1990.

Depreciation. The Incentive Depreciation System (IDS) is substantially less generous than the current Accelerated Cost Recovery System (ACRS). This proposal is projected to cost over $260 million during the five years after enactment. The effect becomes more pronounced in the later years of the projection because the remaining depreciation on five-year ACRS property has finally been realized. By 1990, nearly all of the property used by the coal industry will be depreciated according to IDS rules. Thus, the annual effect of this proposal is likely to be closest to that projected for 1990.

Corporate Tax Rates. The Ways and Means proposal calls for a cut in corporate tax rates from the current law top rate of 46% to 35%. The effect of this proposal is to decrease taxes by nearly $1.1 billion during the projection period. Of course, part of the magnitude of this decrease can be attributed to the broader base of income to which the lower rate is applied.

Investment Tax Credit. The investment tax credit would be repealed under the Ways and Means proposals. In the later years of the projection the effect is more significant, largely due to the fact that by 1990, more coal companies are projected to be in a positive taxable income position so that more of the investment tax credits can be utilized. Hence, the effect of the investment tax credit repeal is greater in the later years of the projection period.

The remaining three tax changes that affect the coal industry are the (1) dividends paid deduction, (2) change in treatment of capital gains on depreciable assets, and (3) change in the corporate minimum tax. The net effect due to these three proposals is nearly zero. The change in minimum tax rules has an overall effect of being almost revenue-neutral largely because of the provision which allows a tax credit of minimum tax paid against future regular tax liability. Thus, whereas the current add-on minimum tax is always a permanent difference in taxes paid, the proposed alternative minimum tax generally results in a timing industry for coal companies because the large preference items, mainly percentage depletion, are reduced to the point where coal companies will no longer be affected by the minimum tax.

Summary

The net effect on the coal industry is a dramatic increase in tax liabilities. Furthermore, it is significant that a large share of the increase in tax liability for the coal industry is a result of the repeal of percentage depletion allowances, which apply only to extractive industries.

While transition rules are intended to smooth out the overall increase in tax liability, it is difficult to ameliorate the impact of what amounts to an average increase in tax liability of 73% over the 1986-1990 period. The increase in 1986 tax liability is projected to be over 36%, with steady increases from that point forward. Even though coal companies will feel the tax impact of the Ways and Means proposals only after five years, the tax increase in the first few years is so great that the transition from current law to the Ways and Means proposals will have a significant impact on the short-run profitability of coal companies.

Mr. HALL. The Chair at this time will recognize Mr. Curtis Mewbourne, who was one of the first to put out a thesis on the effect of deregulation on gas. And I must admit here publicly and to be put in print, that I plagiarized that in many of my speeches when I was running in 1980.

The Chair is proud to recognize Mr. Mewbourne.

STATEMENT OF CURTIS W. MEWBOURNE

Mr. MEWBOURNE. Thank you, Mr. Chairman.

Mr. Hall, as you have heard today, the oil and gas industry is currently in disarray. There are a number of problems facing this industry, and you have heard them recounted today. The declining prices of oil and natural gas and reduced levels of drilling activity, curtailment of natural gas production, illiquidity, and now these new rules from the SEC that contain provisions blatantly discriminatory against independent producers and industrial users of natural gas.

The industry is operating in the fourth year of a very severe recession. In addition to these problems, independent producers are being threatened with possible changes in the tax law which would have the effect of reducing cash-flow and making it extremely difficult to raise money for exploration for new reserves.

The reduced level of drilling activity will result in declining reserves of oil and natural gas. The events which have occurred in the past few yeas will guarantee a shortage of natural gas sometime in the future when the decline in deliverability comes into contact with increasing demand.

Additional stress will be added to the existing problems by the new transportation rules of the FERC which effectively stop the transportation and sale of gas directly to industrial users by producers. Most interstate pipelines and distribution companies, which are monopolies in the truest sense of the word, are refusing to transport gas for producers to industrial users.

Independent producers are being forced to shut in gas wells and lose sales and markets, while industrial users are losing low-cost natural gas. Some will be forced to replace these lost purchases with fuel oil, which will be imported. At the same time, the interstate pipelines are refusing to purchase new supplies of gas under long-term contracts. The only purchases being offered today are 30-day spot market purchases by marketing subsidiaries of the pipelines which use those spot purchases to attempt to acquire the industrial users being denied transportation by the same pipelines.

This tax reform measure before the Congress contains many provisions which will be damaging to independents. But I would like to talk about two or three of them and give you some practical reasons why these should be retained.

The first would be percentage depletion. Percentage depletion has been in existence for almost the entire history of the oil and gas industry. There are many reasons why it should not be changed. Oil and gas are depleting assets and have no residual value. Replacement costs are many times the original cost. Drilling costs have escalated dramatically. The cost of drilling a well has approximately tripled during the past 10 years. Ten years ago, it cost approximately $30 to $40 per foot to drill a well. Today, that cost is nearer $90 a foot.

During the same periods of time, during this 10-year period, the finding rates for natural gas have declined dramatically from the range of approximately 300 thousand cubic feet per foot down to about 100 thousand cubic feet per foot. So what you have is a geometric increase in the cost of finding natural gas. It costs three times as much to drill a well, and you only find one-third as much gas when you do. So your costs are up in the range of nine times.

Intangible drilling costs of drilling a well are quite different from the cost in other industries. Real estate investments are characterized by structures which remain standing for many years and can be shown to potential users or purchasers who continue to assign value for decades.

Manufacturing typically involves a product that is sold in a short period of time and the capital is returned to the manufacturer in a matter of weeks or months. Oil and gas properties produce for many years, however, before returning their cost to an investor. Your cost of drillng those wells is tied up for many, many months and years. A manufacturer's product is sold, and his money comes back to him.

Intangibles, or the costs of drilling wells not represented by equipment, have no salvageable value. These intangibles have to be paid for in cash. To use borrowed money to pay for these intangibles is a quick way to insolvency. To amortize intangibles or depreciate them in the manner of real estate is not proper for investments in oil and gas. When a building has been fully depreciated, it is still standing and generally useful. When oil and gas are depleted, there is nothing left. It is like burning down a building one floor at a time. The expensing of intangibles is very similar to the expensing of research and development costs in many other industries.

Now, I would like to conclude my statement with a discussion of the availability of investment capital to independents. Almost every exploration company uses outside investors to supplement its own capital. Even Exxon and Amoco and Shell, down to the smallest of independent producers.

The sources of investment capital available to these Exxons and Amocos are closed to all but the very largest of independents, leaving independents to rely on individual investors to supply the capital so desperately needed for exploration. These individual investors need the benefits provided by percentage depletion and expensing of the intangibles to continue their participation in an industry that is so burdened with problems as the gas and oil industry.

The outside capital is imperative if the industry is to develop the reserves needed to provide the energy for every part of America. The reserves of oil and natural gas have been declining for years because the finding rate and reserve additions have not replaced the production which satisfies the demand of consumers.

It required a national drilling boom. It required the investment of $55 billion annually in the period of 1981 and 1982 just to provide these temporary stabilizing effects, and reserves are once again declining.

These investment dollars will never again be available if outside capital is driven away by the proposals such as are currently before the Congress.

Thank you very much, Mr. Chairman.

Mr. HALL. Thank you, Mr. Mewbourne.

[The prepared statement of Mr. Mewbourne follows:]

CURTIS W. MEWBOURNE
MEWBOURNE OIL COMPANY
TYLER, TEXAS

EFFECT UPON THE INDEPENDENT PRODUCER OF THE PROPOSED TAX REFORM BILL

I come before you today as a representative of an industry currently in disarray. Declining prices of oil and natural gas, reduced levels of drilling activity, curtailment of natural gas production, illiquidity, and now new rules from FERC that contain provisions blatantly discriminatory against independent producers and industrial end users of natural gas, are only some of the issues confronting the oil and gas industry. The industry is operating in the fourth year of a severe recession. In addition to these problems, independent producers are being threatened with possible changes in the tax law which would have the effect of reducing cash flow and making it extremely difficult to raise exploration capital from outside investors. The reduced level of drilling activity will result in declining reserves of oil and natural gas. The events which have occurred during the past few years will guarantee a shortage of natural gas sometime in the future when the decline in deliverability comes into contact with increasing demand.

Additional stress will be added to the existing problems by the new transportation rules of FERC which effectively stop the transportation and sale of gas directly to industrial users by producers. Most interstate pipelines and distribution companies, which are monopolies in the truest sense, are refusing to transport gas for producers to industrial users. Independent producers are being forced to shut in gas wells and lose sales and markets while industrial users are losing low cost natural gas and some will be forced to replace the lost volume with imported fuel oil. At the same time the interstate pipelines are refusing to purchase new supplies of gas under long term contracts. The only purchases being offered are thirty day spot market purchases by marketing subsidiaries of the pipelines which use those spot purchases to attempt to acquire the industrial users being denied transportation by the same pipelines.

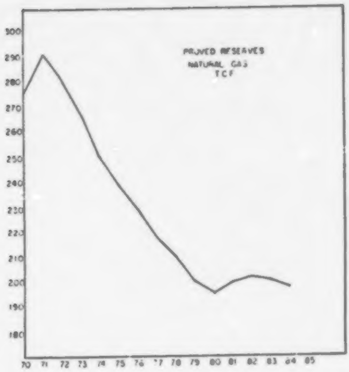
The tax reform proposal currently being considered by the Ways and Means Committee contains many provisions which are harmful to independent producers specifically and the oil and gas industry in general. I would like to address the more important provisions as to the way in which they affect independent producers.

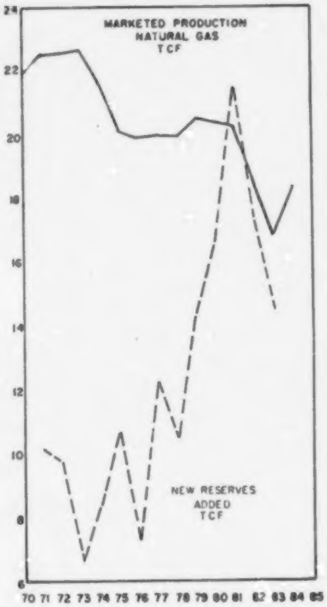
(1) I.D.C. or the cost of drilling not represented by equipment has no salvageable value.

(2) The intangibles should be paid for in cash. To use borrowed money for intangible costs of exploratory wells is a fast route to insolvency.

(3) To amortize I.D.C. or depreciate in the manner of real estate is not proper for investments in oil and gas. When a building has been fully depreciated, it is still standing and generally useful. When oil and gas are depleted, there is nothing left. It is like burning down one floor of a building every year.

(4) The expensing of intangibles is very similar to expensing of research and development costs in other industries.

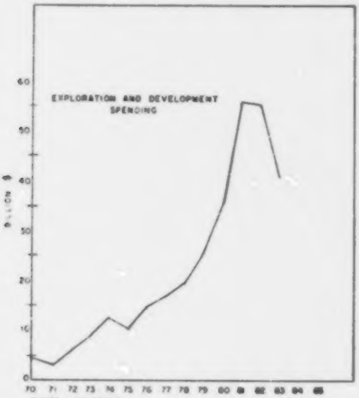




AVAILABILITY OF INVESTMENT CAPITAL

Almost every exploration company uses outside investors to supplement its own capital, from Exxon and Amoco down to the smallest of independent producers. The sources of investment capital available to the Exxon's and Amoco's are closed to all but the very largest of independents, leaving independents to rely on individual investors to supply the capital so desperately needed for exploration. These individual investors need the benefits provided by percentage depletion and expensing of intangibles to continue their participation in an industry so burdened with problems as the current oil and gas industry. This outside capital is imperative if the industry is to find and develop the reserves needed to provide the energy for every part of America, including residential consumers, commercial businesses and industry.

Reserves of oil and natural gas have been delcining for years, because the finding rate and reserve additions have not replaced the production which satisfies the demand of consumers. It required a massive drilling boom to stabilize the reserves of natural gas and reduce the decline in oil reserves. It required the investment of Fifty-five Billion Dollars annually in the period of 1981-82 just to provide these temporary stabilizing effects and reserves are once again declining. These investment dollars will never be available again if outside capital is driven away by proposals such as currently before the Congress.



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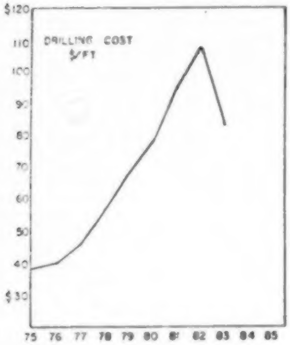
DEPLETION

Percentage depletion has been in existence for almost the entire history of the oil and gas industry. There are many reasons why this provision of the tax law should not be changed, some of which are:

(1) Oil and natural gas are depleting assests and have no residual value.

(2) Replacement costs are many times the original costs. Drilling costs have escalated dramatically. The cost of drilling a well has approximately tripled during the past ten years.

(3) The finding rate of oil and natural gas per foot drilled has declined drastically. Today three times the number of feet of hole must be drilled to discover the same reserves as ten years ago. The three times greater feet of hole each cost triple what the original hole cost to drill, giving a geometric increase in the cost of replacing reserves. At the same time the rate of percentage deletion available under the tax law has been declining.



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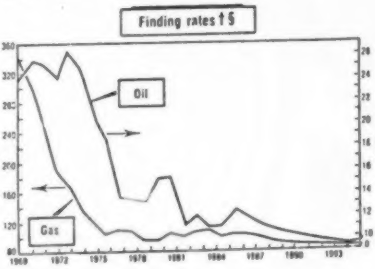

*Based on [illegible] of stable price and declining price cases.
†Dry hole footage proportionately allocated to oil and gas. §Four year moving average.
Source: Bankers Trust Co., 1974-84 data compiled by Department of Energy, Joint Association Survey, and American Petroleum Institute

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INTANGIBLE DRILLING COST

The intangible cost of drilling a well is quite different from costs incurred in many other industries such as real estate or manufacturing. Real estate investments are characterized by structures which remain standing for years and can be shown to potential users or purchasers who continue to assign value for decades. Manufacturing typically involves a product which is sold in a short period of time and the capital is returned to the manufacturer in a matter of weeks or months. Oil and gas properties produce for many years before returning their cost to an investor. Other reasons requiring the expensing of intangibles are:

Mr. **Hall**. The Chair at this time recognizes Mr. Merritt, president of Merritt Tool Co., who is not only a searcher and producer of energy, but a user of energy.

The Chair recognizes Mr. Merritt.

STATEMENT OF THOMAS C. MERRITT

Mr. **Merritt**. Thank you, Congressman. My name is Thomas Merritt. I serve as secretary-treasurer of Merritt Tool Co. I would have been president, but my brother was born first.

Mr. **Hall**. We made you president on this listing for the panel here.

Mr. **Merritt**. Thank you very much.

We are a subcontract oil and gas equipment manufacturer which was established in 1928 by my late father, also president of Gregg Industrial Insulators, Inc., an oil and gas petrochemical contract insulating company, and managing partner of Merritt Oil and Gas, a nonoperating oil and gas natural gas producing company. All of these are family-owned businesses located in Kilgore, TX.

I might add here that Kilgore is located in the center of the giant east Texas oilfield which was some 42 miles long and 14 miles wide and discovered in 1931. There has not been a field of this magnitude discovered in the lower 48 in some 55 years. This field was the mainstay behind winning World War II, with the construction of the Big Inch pipeline.

I would like to submit for the record a report about the facts about the east Texas oilfield and a report about the construction of the Big Inch pipeline.

Mr. **Hall**. Without objection, that will be made part of the record.

Mr. **Merritt**. I am grateful for your invitation to give testimony today. My statement is that the Ways and Means Committee, the President, and the Treasury Department are out of tune with the independent oilmen's struggle to stay in business. An independent must have capital to drill wells, to stay competitive with other producers such as the Government of the United States, Mexico, Canada, and OPEC, led by giant Saudi Arabia.

Merritt Tool Co. has supported the independents by manufacturing on a subcontract basis drilling and production equipment for Hughes Tool, Dresser Industries, National Supply, B.J. Hughes, OPI, and many other smaller manufacturers such as Hawn Tool Co. and Well Site, Inc.

Since my testimony before this committee on December 9, 1983, Hughes Tool Co. reported their first loss. Dresser Industries is writing down over $500 million in assets.

B.J. Hughes will not reopen their plant on Navigation Street, Houston, TX, after spending in excess of $15 million for an additional production capacity. OPI, Odessa, and Skytop, Conroe, TX, are closed and for sale. Hawn Tool Co. and Well Site, Inc., are gone, and they owe creditors millions.

National Supply has closed and consolidated many stores, and on this very day auctioning equipment that is crucial to the oil and gas producing business. I just happen to have a brochure on the auction.

Mr. **Hall**. Would you like to make that part of the record?

Mr. **Merritt**. It is part of the record.

Mr. **Hall**. It will be admitted.

Mr. **Merritt**. Merritt Tool Co. has not received an order from the above major suppliers and will not until the existing surplus equipment is exported and/or consumed through the salvage operation of drilling contractors.

Elected officials such as yourselves should not allow one drilling rig to leave this country until all inland basins are explored. How can you let an industry that is so crucial to this country be forced out of business?

Independent oilmen will produce what reserves he has behind the pipe, but will not gamble on new reserves until the odds are right. When Congress pecks away by removing capital year after year, you are reducing the odds in return on investment.

Today, an independent cannot obtain financing for his ventures as he did from 1977 until 1982. The Comptroller of the Currency is clamping down, but by not allowing nonproducing reserves behind the pipe to have value which reduces collateral, and producing property value is based on cash flow, the Government again pecks away at the industry.

The banking industry, FDIC, Comptroller of Currency, are running scared. Many service companies have been placed on a credit watch list, and this is passed on to Merritt Tool Co. In Oklahoma, 20 banks have gone under since July 1982. When Oklahoma City's energy-lending Penn Square Bank became the largest U.S. financial institution ever to go into receivership. I have a copy of the article attached to my testimony.

Our bank, Allied Bank of Texas, in its third-quarter report dated September 30, 1985, reported that management undertook special credit review measures in recognition of the fact that economic deterioration was pervasive in energy-related businesses due to the lengthy slowdown in oil and gas exploration.

Furthermore, the unsuccessful July meeting with OPEC indicated that there was considerable likelihood of further erosion in oil and gas prices. Attached is a letter to Randy Brogoitti of the First National Bank that shows how the Comptroller of the Currency is reviewing energy loans. And it is very complex. But basically, they are not giving any value to reserves behind the pipe, nonproducing. This puts a further crunch on the bank and passes it on down through the independent and through the manufacturer.

Gentlemen, with the loss of expensing, intangible drilling costs, and percentage depletion allowance, the slowdown could be considered a halt. However, I see the collateral becoming very valuable. The discontinuance of drilling would result in higher prices for oil and gas products and for equipment.

Oil price is based on one factor, in my opinion: Saudi Arabia. Saudi Arabia can raise or lower prices at will. The citizens of this country are simply lulled into believing that this is an acceptable way to do business.

Gentlemen, why do you continue buying trucks, jeeps, airplanes, and tanks when this country is losing its most crucial mobilization base—the independent oilmen and oil refiners? It is for you to decide how much this country is to pay for our unsecured energy supply.

Our friendliest Middle East ally, Israel, is dependent upon the United States for 1 million barrels per day of crude as per the Camp David Accord. Are we going to purchase it from the Saudis? You bet not. The increase of domestic exploration and production of natural gas and crude oil is critical not only to the citizens of the United States but to Israel. As leaders of this country, you cannot sit back and allow the Saudis to hold that kind of leverage on the leader of the Free World.

On October 16, 1983, the Arab members of OPEC more than doubled their price of crude and later embargoed shipments to the United States and other supporters of Israel.

Attached is a copy of an article that appeared in the Dallas Morning News that reports how price erosion affects Texas treasury, economy, banking, service, and in producing segments. I would like to just read a couple of those that I have highlighted.

"The Saudis signed a net pricing agreement to sell 850,000 barrels of oil to three U.S. companies: Exxon, Texaco, Mobil." That is an increase, I would assume, coming into this country. "For each dollar decline in the price of oil, it costs Texas about $3 billion in potential economic output or gross state product per year. 'Every dollar barrel price decline idles 83 oil drilling rigs in America. When prices drop, oil company loans based on higher priced oil reserves as collateral can become a problem,' said Dr. Bernard Weinstein, a Southern Methodist University economist. Decline in oil prices is going to put many independents at risk, raise questions about their collateral, and put additional risk on the financial community."

For every dollar decline in oil prices the State loses 28,000 jobs. The loss of intangible drilling costs or depletion is playing into the hands of the Saudis. Congress and the President should be meeting today to discuss ways to increase the incentive to drill, not to kick us while we are down.

The independents drill the most wells, and yet historically are hit with bad legislation and hard times and forced to sell. Roughly one-fourth of the Nation's independent oil companies have sold out, merged, or gone out of business in the past 2 years. It is cheaper to buy oil at the spot market than to explore for it.

However, it is essential to have staying power, and a partner like the Saudis in order to shut in your domestic production. The independent oilman has always had incentives and a little edge, like the intangible drilling cost and depletion to keep the big boys honest.

I believe that when Congress allowed for the expensing of intangible drilling costs and percentage depletion, it was intended to be just that: a competitive edge to encourage the small independent businessman to take risks and muscle up against a major and drill, not to find oil on the spot market.

It was offered to encourage domestic drilling, and when drilling is down, Congress should be offering encouragement to the independents, to bankers, to investors, and to machinists. Inland drilling is as important as any defense system Congress can buy. Drilling is important to our economy because it fuels the wheels of industry and, above all, is the key element in reducing our foreign trade imbalance.

The President and Congress are not tuned in. OPEC is increasing production, and Saudi Arabia is threatening to lower prices to possibly below $20. The Comptroller of the Currency is putting the squeeze on oil bankers. The major oil companies are buying the independents. If the proposal to eliminate expensing intangible drilling costs and percentage depletion is enacted, that will be the final squeeze. The independent oilman will diminish.

I plead to you to send a signal to the President and Chairman Danny Rostenkowski of Ways and Means to halt discussions on eroding the capital from this important business. You should request that additional incentives be considered in order to encourage drilling.

Thank you for your attention.

[Testimony resumes on p. 979.]

[Attachments to Mr. Merritt's prepared statement follow:]

T. H. RICHTER & ASSOCIATES, INC.
PETROLEUM CONSULTANTS
140 E. TYLER SUITE 530
LONGVIEW, TEXAS 75601

(214) 757-3027

April 19, 1985

Mr. Randy Brogoitti, President
Kilgore First National Bank
P. O. Box 432
Kilgore, TX 75670

Re: Guidelines For Collateral Evaluation

Dear Mr. Brogoitti:

As part of our continuing service to you concerning the energy business, T. H. Richter and Associates attempts to keep you abreast of new developments and current conditions. We recently received a copy of an Examining Circular from the Comptroller of the Currency, Administrator of National Banks concerning oil and gas reserve base lending. As indicated, these guidelines have been adopted by the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation and the Federal Reserve Board.

We hope you find the attached informative.

Sincerely,

T. H. RICHTER & ASSOCIATES, INC.

Thomas H. Richter

Thomas H. Richter, P.E.
Registered Professional Engineer

THR:mo

Attachment (1)

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EXAMINING ISSUANC

Comptroller of the Currency
Administrator of National Banks

Type Examining Circular

Subject Guidelines for Collateral Evaluation and Classification of Troubled Energy Loans

To: All examining personnel

Attached are revised guidelines adopted by the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation and the Federal Reserve Board for the evaluation of collateral and the classification of troubled oil and/or gas reserve-based loans. These guidelines are intended to be used as guidance to assist the examiner in establishing more consistent classifications in all energy lending banks. They should not be applied as a substitute for a case-by-case analysis of all applicable credit and collateral factors present in each individual credit.

Please discard any earlier guidelines you may have received. Comments and questions may be referred to the Commercial Examinations Division at (202) 447-1164.

ORIGINATING OFFICE

Chief National Bank Examiner's Office, Commercial Examinations Division, Washington, D.C.
FTS 447-1165.

H. Joe Selby
Senior Deputy Comptroller
for Bank Supervision

Attachment

Date August 24, 1984

Page 1 of 1

GUIDELINES FOR COLLATERAL EVALUATION AND CREDIT CLASSIFICATION OF TROUBLED OIL AND/OR GAS RESERVE BASED LOANS

SUMMARY

This document sets forth flexible guidelines to be utilized in an examiner's review of reserve-based loans. The classification of reserve-based loans is like all loan classifications in that it must be predicated on an independent assessment of all salient credit factors that are germane to the specific credit being reviewed. The use of these guidelines by examiners should aid in efforts to ensure that troubled reserve-based loans receive consistent treatment nationwide.

DISCUSSION

Engineering Reports

The initial step to assessing the creditworthiness of reserve-based loans is an analysis of the engineering function. Cash flow generated from the future sale of encumbered oil and/or gas reserves is the primary, and in most cases the intended, source of repayment. Therefore, the integrity of engineering data that depicts that future cash stream is critical to the initial lending decision and equally important to an examiner in the assessment of the credit quality.

For evaluation purposes, acceptable engineering reports must be an independent, detailed analysis of the reserve prepared by a competent engineering group. The report must address three critical concerns:

(1) Pricing. Prices must be realistic. The report should indicate consideration for both price inflation and cost inflation over the "life of the properties".

(2) Discount factors. Discount rates used should reflect current market interest rates.

(3) Timing. Preferably the report should be no more than six months old and under no circumstances exceed 12 months. The critical factor in determining the adequacy of the timeliness of the reports is change. Recent significant price fluctuations or changes in interest rates may require the examiner to adjust the valuation of the reserves to reflect current conditions.

In those cases where the engineering reports do not meet one or more of the above criteria, the examiner may need to use other methods, e.g. recent cash flow histories, to determine the current collateral value. In addition, appropriate comments should be included in the report of examination and recommendations made to bank management for improving their engineering reporting.

Again, cash flow generated from the sale of oil and/or gas in the future is the basic premise of reserve-based lending. For this reason, prudence mandates that loan values be predicated primarily on reserves that are "Proved Developed Producing properties (PDP)".

Red Flag or Trigger

A comprehensive analysis of the credit must take place if any of the following factors are present:

- The loan balance exceeds 65 percent of the discounted Present Worth of Future Net Income (PWFNI) of PDP, or the cash flow analysis indicates that the loan will not amortize over four to five years.
- The credit is not performing in accordance with terms or repayment of interest and/or principal, or
- The credit is identified by the bank as a "problem" credit.

After performing the analysis, the examiner must determine if classification is warranted. The following guidelines are to be applied in instances where the obligor is devoid of primary and secondary repayment capacity or other reliable means of repayment, with total support of the debt provided solely by the pledged collateral (Collateral dependent debt).

Classification Guidelines

Proved Developed Producing (PDP) Reserves:

(1) 65 percent of discounted PWFNI, should be classified SUBSTANDARD. A lesser percentage or less severe criticism may be appropriate in cases where a reliable means of repayment exists for a portion of the debt. The 65% percentage should be used when the discounted PWFNI is determined using historical production data ("decline curve analysis engineering"). When less than 75% of the reserve estimate is determined using historical production data, or the discounted PWFNI is predicated on engineering estimates of the volume of oil/gas flow (volumetric and/or analogy based engineering data) the collateral value assigned to substandard should be reduced accordingly.

(2) The balance, but not more than 100 percent of discounted PWFNI of PDP reserves should be extended DOUBTFUL.

(3) Any remaining deficiency balance should be classified LOSS.

Other Reserves

In addition to PDP, many reserve-based credits will include Proved Developed Non-Producing (PDNP) Reserves, Shut-In Reserves, Behind-the-Pipe Reserves and Proved Undeveloped Properties (PUP) as collateral. Due to the nature of these other reserves, there are no strict percentage guidelines for the proportion of the credit supported by this type of collateral that should remain as a bankable asset. However, only in very unusual situations would the proportion of collateral values assigned to a classification category approach the values for PDP.

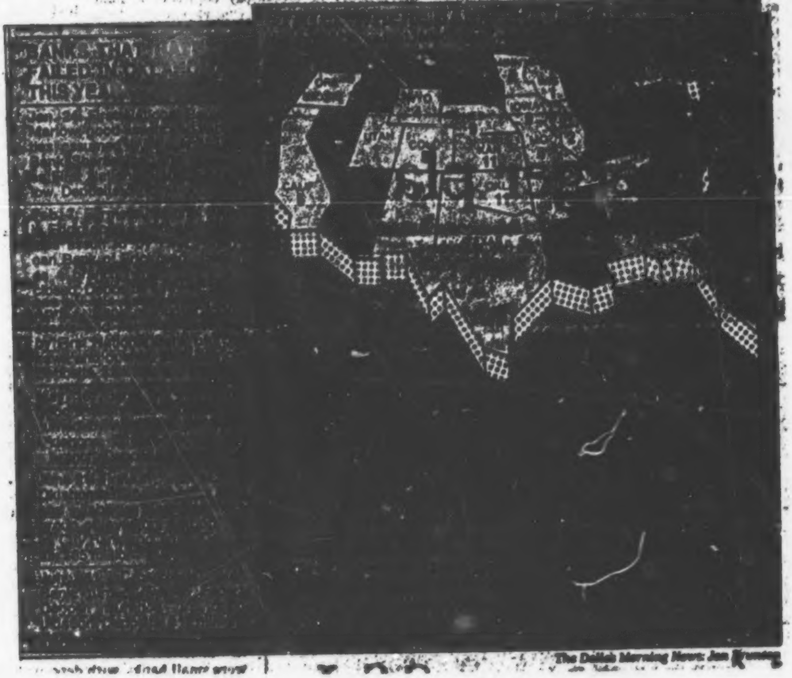
The examiner must ascertain the current status of each reserve and develop an appropriate amount. Examples could be reserves that are Shut-In due to economic conditions versus reserves that are Shut-In due to the absence of pipeline or transportation. PUP require careful evaluation before allowing any bankable collateral value. An example of a bankable value for PUP could be one that has a binding purchase contract. In every classification where a bankable value is given for any of these "Other Reserves", the loan write-up should support fully the examiner's determination.

SUMMARY

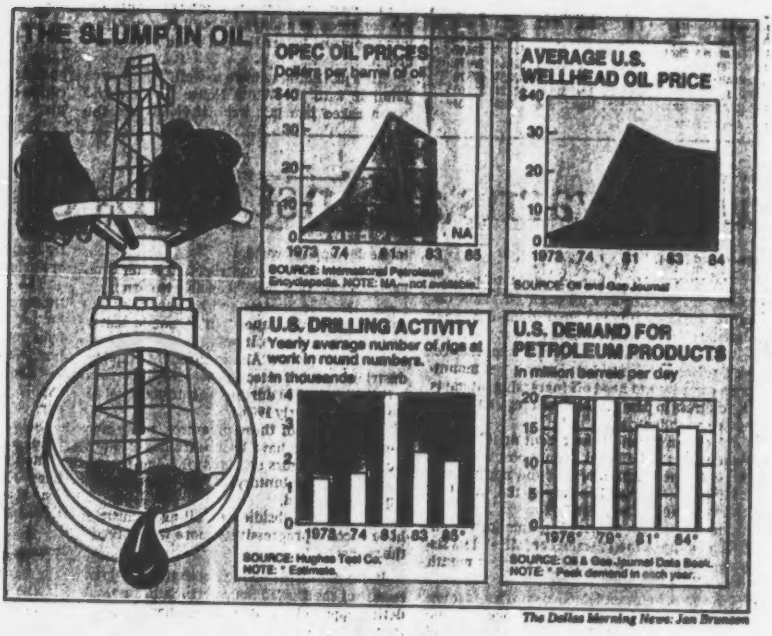
The above guidelines apply to reserve-based loans that are considered collateral dependent and are devoid of repayment capacity from any other tangible source. Rarely should bankable consideration be given to loans that are completely collateral dependent in excess of the liquidation value of the pledged reserves. Once again, there is no substitute for a specific, case-by-case analysis of applicable credit and collateral factors pertaining to each individual credit. Frequently, when a lender encounters problems with a production credit, numerous other types of assets (e.g., A/R, inventories, real estate, etc.) are encumbered in an effort to protect the banks' interests. Other types of collateral and sources of repayment should be carefully evaluated on a case-by-case basis.

When reserves are considered real property under state law, foreclosed and debtor in possession properties should be handled in accordance with 12 U.S.C. 29 and 12 CFR 7.3025. In those cases, they should be carried at amounts that do not exceed their liquidation (quick sale) value supported by independent appraisals or tangible purchase offers. (See 12 CFR 7.3025 d and e.)

THE ENERGY REPORT



The Dallas Morning News: Jan [illegible]



THE SLUMP IN OIL

OPEC OIL PRICES
Dollars per barrel of oil

SOURCE: International Petroleum Encyclopedia. NOTE: NA—not available.

AVERAGE U.S. WELLHEAD OIL PRICE

SOURCE: Oil and Gas Journal

U.S. DRILLING ACTIVITY
Yearly average number of rigs at work in round numbers.
In thousands

SOURCE: Hughes Tool Co.
NOTE: * Estimate.

U.S. DEMAND FOR PETROLEUM PRODUCTS
In million barrels per day

SOURCE: Oil & Gas Journal Data Book.
NOTE: * Peak demand in each year.

The Dallas Morning News: Jan Brunson

[From the Dallas Morning News, Nov. 6, 1985]

ENERGY PLAYS ONLY BIT PART IN SINKING OF OKLAHOMA BANKS

(By Anne Reifenberg)

OKLAHOMA CITY.—R.Y. Empie, Oklahoma banking commissioner, finds himself repeating a favorite riddle with increasing frequency these days.

"When a person drowns, is it because of the water or because he doesn't know how to swim?" Empie asks rhetorically. "I say it's not the water that drowns him—it's the fact he doesn't know how to swim."

Empie heads the banking regulatory agency in a state that is tied with Kansas for top billing on the list of states with the greatest number of banks that have failed in 1985. There have been 11 failures in both Oklahoma and Kansas this year.

And in Oklahoma, 20 banks have gone under since July 1982, when Oklahoma City's energy-lending Penn Square Bank became the largest U.S. financial institution ever to go into receivership.

The point Empie says he strives to make with his riddle is that the Oklahoma banks have failed because they don't know how to swim, not because they are in the dangerous waters of the state's sluggish energy- and agriculture-based economy.

"But from the day of Penn Square, the first thing said after a bank failed always was, "Well, I suppose this is energy-related," Empie said last week. "Then comes the calamity in the agriculture industry, and now the first thing said after a bank fails is, "So, I suppose this is agriculture-related."

"People have come to construe bank failures as acts of God—that banks fail because of something beyond their control—and that's kind of a cop-out. Hundreds of banks in Oklahoma could care less about the price of a barrel of oil or the price of a bushel of wheat...It's mismanagement (that causes failures), pure mismanagement."

The fact remains that before Penn Square collapsed in 1982—under what bank examiners said was the weight of mismanagement, unusually rapid growth and an excessive concentration on oil and gas loans—an Oklahoma bank hadn't failed since 1977.

Shortly before the Penn Square fiasco, Oklahoma's oil and natural gas industry—which in 1977 replaced agriculture as the state's largest income producing industry—began to fall on hard times. And in the 3½ years since Penn Square, it has continued to suffer; two weeks ago the number of drilling rigs operating in the state dropped to 204, the lowest in nine years.

But Empie said Oklahoma's sluggish energy industry and troubled agriculture industry are too often blamed for a financial institution's woes.

"A bank is subject to fluctuating interest rates, the stock market, fluctuating oil prices and regulatory interdiction (restraints) to the extent that it chooses to be," he said.

The significant link is not between the dismal Oklahoma economy and its effect on financial institutions, he said, but between the economy and its effect on the investors who might come to the rescue of a troubled bank.

Although only two of the 11 banks that have failed in Oklahoma this year were liquidated, state and federal banking officers said they have noticed a reluctance on the part of eligible bidders to step forward and assume a failed bank's good assets and liabilities.

The First State Bank of Jet and Farmers State Bank in Afton fetched only one bid each, and the one bid made for the First National Bank of Terral was deemed unacceptable by the Federal Deposit Insurance Corp., which instead launched liquidation proceedings.

"We have had two payoffs in the last four closings," said Paul Heafy, head of the deposit insurance corporation office in Oklahoma City. "That would indicate something, though I'm not sure it's a trend."

Empie said the bidders' reluctance is apparent not only after a bank has been declared insolvent but, more importantly, before an institution has reached the verge of collapse.

"There have always been people in the industry who don't know how to run a bank," Empie said. "It's just now starting to show...that there are not the alternatives for salvation that there once were."

"There used to be a lot of buyers for banks that were about to fall. There used to be the last-minute excitement (of a rescue of a bank facing insolvency), and the public never knew about it. Those days are gone."

Though members of the Oklahoma banking industry have not taken the string of failures lightly, their view is that the failures do not point to ill health in the industry as a whole.

The 20 failed banks represented less than 1 percent of the industry in Oklahoma, where 550 institutions are still thriving. Most of them were small banks, with deposits below the state median of $30 million. And since 1978, the Oklahoma Banking Board has granted 77 new bank charters and permission for established banks to open 126 new branches.

Neither does there appear to be great concern at the national level—even though the 79 insured banks that went under in 1984 toppled the former U.S. record of bank failures in one year, set in 1937, when there were 77.

Deposit insurance corporation spokesman Steve Katsanos said that as time progresses, "every failure sets a new record." The agency has predicted that more than 100 banks will have failed by year's end. To date, 95 have gone under.

"But we've still got about 15,000 banks out there," Katsanos said. "It (the number failed) is less than 1 percent of the industry. Certainly the data don't indicate any systemic problems in the industry." Katsanos said a "management shakeout" is sweeping the banking industry, just as a surge in restructuring, mergers and buyouts has been evident throughout the U.S. business community.

"And banks are just businesses," Katsanos said. "People have to keep that in mind."

[From the Dallas Morning News]

TEXAS OIL PENSIVE BEFORE PLAYING FOLLOW THE LEADER

(By Bruce Nichols)

HOUSTON.—Every $1 decline in the average price of a barrel of oil costs 28,000 Texans their jobs, trims $3 billion from the state annual economic output and reduces state government revenue $70 million per year, experts say.

Many Texans, therefore, will be watching closely when the Organization of Petroleum Exporting Countries, a world leader in pricing, meets in Vienna Oct. 3. The meeting follows a "historic" role reversal by OPEC's largest producer, Saudi Arabia, said John Lichtblau of New York-based Petroleum Industry Research Foundation.

Saudi Arabia, which has been cutting its own production to support world oil prices, is moving to increase its production and lower its prices. The Saudis explain they no longer can afford to stay below their OPEC production quota, while other members exceed their allocations and cut prices, Lichtblau said.

The Saudis have signed "net-back" pricing agreements to sell 850,000 barrels of oil a day to three U.S. companies, Exxon Corp., Texaco Inc. at Mobil Corp., and are believed to be negotiating with others, Lichtblau said. Net-back pricing is tied to the market price of oil products and could trim as much as $3 off the official Saudi price of $28 per barrel, analysts say.

If Saudi oil is selling for $25, many analysts expect further erosion in world prices from the current average of $26 to $27 a barrel. If other OPEC members react unfavorably to the Saudi moves, some analysts fear a price war that could result in an oil-price collapse.

Further price drops can only hurt a Texas economy slowed by the 25 percent decline in prices since 1981, when a barrel of Saudi oil sold for $34, economists said. More than 22 percent of the state's economy is dependent on the oil industry, economists said.

"The industry shudders at every rumor of a price cut and winces at the thought of $20 oil. Every drop in the price of oil has brought unemployment to the state, particularly Houston," said economist Anna Fay Williams of Texas Commerce Bank in Houston.

If the price slides no further than $25 a barrel, Texas would continue to experience "slow growth in the overall state economy," said Dr. Tom Plaut of the University of Texas Bureau of Business Research. But if the price slides to $20 by next spring, "that would be enough to put the state's economy into a recession," Plaut said.

When oil prices drop $1 a barrel, 28,000 of Texas' 7 million workers lose their jobs, Plaut estimates, with most job losses concentrated in oil exploration and production and in oilfield equipment and supply companies.

Each $1 decline in the price of oil costs Texas about $3 billion in potential economic output or "gross state product" per year, Plaut said. Total Texas output in 1985 was $289 billion.

State government, already struggling to balance its budget, annually loses $40 million in oil severance taxes and $30 million in sales taxes when oil prices drop a dollar, said state comptroller Bob Bullock.

In the private sector, Plaut calculates every $1 per barrel price decline idles 83 oil drilling rigs in America. The number of drilling rigs at work already has been sluggish this year, and Hughes Tool Co. expects to trim its forecast of average daily activity for the year from 2,240 to 2,100, said Hughes vice president I.C. Kerridge Jr.

With lower oil prices, "I think you'll see a step-up in the attrition in drilling and oil-service companies," Kerridge said.

Roughly one-fourth of the nation's independent oil companies have sold out, merged with another company or gone out of business in the past two years, said Richard Adkerson, manager of oil and gas-related business for Arthur Anderson & Co. in Houston.

"Obviously, if we have a major price drop...we're going to see continued problems," Adkerson said.

When prices drop, oil company loans based on higher priced oil reserves as collateral can become a problem, said Dr. Bernard Weinstein, a Southern Methodist University economist.

"There's no doubt a further decline in oil prices is going to put many independents at risk, raise questions about their collateral and put additional risks on the financial community," Weinstein said.

How much world oil prices will slide is a matter of debate among the experts. Analyst Dale Steffes of Planning & Forecasting Consultants in Houston warns there is a possibility of a steep decline if other OPEC members do not go along with Saudi Arabia's desire to raise production closer to its quota of 4.3 million barrels a day.

"If things get disruptive, and they really start hollering at each other" the average price could drop to $18 in a matter of months, Steffes said. But he predicts a more gradual drop because too many nations need high oil prices, particularly producer nations with high foreign debt.

Lichtblau agreed, saying if the price breaks sharply "the real floor could be the cost of producing a marginal barrel of oil, and that's awfully low, $10 or $12."

But Lichtblau said he expects prices to average $26 through this fall and to slip $2 or $3 next spring.

H.F. Keplinger of Keplinger & Associates, a Houston consulting firm, doubts the Saudi actions will have much effect on prices. "I think demand is increasing, the economy is going to be picking up a little bit, and the market can handle a little more oil. I think prices will fluctuate up or down 10 percent of what they are now . . . then head back up," Keplinger said.

Analysts said the timing of the Saudi action is important because, in the fall, the world starts stocking up on oil to meet winter heating demand. In addition, speculation about declining prices has caused companies to keep inventories lower than normal up to now, adding to autumn demand.

John Sauer, general manager for strategic planning at Conoco Inc., said prices have remained strong since the Saudis disclosed their moves and, "I can't really believe that when we look at this next year, we'll find it did any damage at all. They're not moving to undercut the market. They're moving to the market," Sauer said.

[From the Dallas Morning News]

CHARTING OPEC's COURSE

Here are some important dates in the history of the Organization of Petroleum Exporting Countries and the rise and fall of oil prices:

Sept. 14, 1960—OPEC is formed by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela in response to unilateral price cuts by major international oil companies, which reduced the revenue received by the countries where oil is found. OPEC later expands to include Algeria, Ecuador, Gabon, Indonesia, Libya, Nigeria, Qatar and the United Arab Emirates.

Oct. 6, 1973—The Yom Kippur War between Israel and Syria and Egypt erupts. OPEC's benchmark price is $2.80 a barrel for Arabian Light crude oil.

Oct. 16, 1973—The Arab members of OPEC more than double their oil prices—and later embargo shipments to the United States and other supporters of Israel. OPEC's benchmark price rises to $11.65 a barrel by year's end as the other members of OPEC fall in line with the Arab producers.

February 1979—The success of the Iranian revolution sparks panic oil buying, and OPEC's price for Arabian Light jumps from $13.34 a barrel to $26 over the year. The price rises an additional $6 during 1980 and $2 more in 1981 to peak at $34 a barrel.

March 14, 1983—Giving in to pressure from a world wide oil glut and price reductions by Britain and other non-OPEC producers, OPEC cuts its oil price for the first time, from $34 to $29.

Jan. 30, 1985—Following cuts in oil prices by Britain, Norway and OPEC member Nigeria and widespread cheating on the cartel's price and production quotas, nine of OPEC's 13 members agree to realign prices at a divisive meeting, reducing Arabian Light to $28 from $29.

July 7, 1985—A meeting of OPEC oil ministers in Vienna, Austria, breaks off without agreement on actions to defend official prices. The session is to resume July 21 in Geneva, Switzerland.

SOURCE: Associated Press

Mr. **Hall**. Thank you, Mr. Merritt.

If it is worth anything at all, Mr. Phillips, I would tell you, and our general counsel Ms. Sheridan here can confirm it, that it is normal practice of the committee to save the best for the last.

So at this time, I am honored to get to recognize Robert Phillips, who like so many others who have testified here, is a success story in himself, and son of a very eminent jurist and well-respected judge in northeast Texas.

Mr. Phillips, we recognize you at this time.

STATEMENT OF ROBERT G. PHILLIPS

Mr. **Phillips**. Thank you, Mr. Chairman.

My testimony will be as brief as possible, but hopefully to the point. I certainly will not address as many worldwide issues as have been batted back and forth across the table today. I appreciate the opportunity to sit before this committee and discuss the current status of our domestic oil and gas industry. As the representative of an intrastate natural gas pipeline company located in Texas, my thoughts on pending tax legislation will focus on its impact upon the natural gas industry.

This is an industry which has been shaken to the core by several years of market disorder, economic uncertainty, and regulatory confusion. Our industry over the last decade has bounced up and down like a schoolkid's yo-yo. Rarely have supply and demand been in balance, and the regulatory string of that yo-yo keeps pulling one or the other in a direction it doesn't want to go.

Any analysis of the natural gas industry must start with supply. As many of you know, from a peak in 1981-82 of approximately 5,000 active dilling rigs in the United States, we now have only 1,800 active drilling rigs operating and exploring for oil and gas.

The impact of this decline in drilling activity has been devastating, not only to the development of new domestic oil and gas reserves, but just as importantly, to the loss—and more importantly to the members of this committee—the loss of jobs, reduction in substantial capital investment, loss of economic base and tax revenues both locally and nationwide.

Oil and gas service companies have borne the brunt of this deterioration, and I think Tommy spoke to that very well. It is a significant problem on both the local and national level.

Moreover, natural gas reserve additions critical to the economic and strategic security of our country remain unexplored due to lack of economic incentive. Major oil and gas producers and independent operators alike are hard-pressed to continue exloration and development programs when the finding costs for these reserves exceed the present market value of the product.

The resulting environment has stimulated industry consolidation by large energy companies who now prefer to buy balance sheet reserves as opposed to making capital expenditures for the development of their corporate reserve base.

The small independent producer's choices are just as limited as he has seen investment capital dry up due to economic and regulatory uncertainty. He is the backbone of our industry and yet he faces such a perilous future which includes declining market prices, higher exploration risks, and tougher credit requirements.

The demand for natural gas has seen an equally precipitous decline, spurred by competition from alternate fuel sources such as residual fuel, much of which is imported from foreign countries, and coal. Natural gas market demand has declined from a 1981 annual consumption of approximately 21 trillion cubic feet to a 1985 estimate of approximately 18 trillion cubic feet.

Additionally, the loss of industrial demand has been attributed to the incremental pricing portion of the Natural Gas Policy Act of 1978, and the ominous Fuel Use Act adopted as part of the energy policy overhaul. The creation of the spot market for natural gas in 1983 was industry's response to a crumbling market infrastructure, with economic survival in mind, the industry has revamped its cumbersome pricing structure to compete for market share.

However, the continued monopolistic control of a handful of gas transmission and local distribution companies has prevented these potential economic savings from reaching the end user. The development of structural demand growth in the gas marketplace is the only real prescription for the continued health of this industry. Sensitive cost and price signals from the wellhead to the burner tip are critical to demand growth. The straw that will break the camel's back, in my view, is the disorder and confusion surrounding our current regulatory environment.

With the issuance of the notice of inquiry in December 1984—as I understand, it was spurred by requests from this committee—the Federal Energy Regulatory Commission proceeded to address the issues of, one, transition of deregulation of wellhead pricing under the NGPA, and second, open access to interstate pipeline networks, and third, development of a cohesive policy to allow price-sensitive supply to move to the marketplace with minimal regulatory, administrative, and economic restrictions.

The result of that effort, I am sad to say, was the promulgation of the recent FERC Order No. 436, issued on October 9, 1985. The most discouraging aspect of that order was the resultant unilateral suspension of existing transportation arrangements by various interstate pipeline companies, many of which had been designed to stimulate overall market growth.

FERC Order No. 436 is an ill-timed and inflexible regulatory scheme which has all but eliminated our hopes for the freedom to compete anywhere in the United States for market demand.

Once again, we are relegated to a structured regionalism for supply and demand in the natural gas industry. In my view, the result will be a continued artificial economic scenario for consumers, pipelines, and producers.

The real facts are not going to be borne out. The hydrocarbon, as produced right now, typically costs much more than you can sell the hydrocarbon for. After you take out royalties and taxes, many independent operators are finding it extremely difficult to actually make a return on their invested dollar. Certainly, in the long run this will have a dramatic impact upon the economics of the entire industry.

The example of taking one step forward and two steps backwards certainly is applicable to order 436.

Open access to the marketplace is a mandatory condition to free enterprise and the development of future demands for economic savings. The regulatory burden carried by this industry is the primary cause of shrinking demand, shrinking prices, and shrinking gas reserves.

In my judgment, our industry is on the ropes. As with natural gas regulation, new tax legislation will impact natural gas producers, transporters, and users with more uncertainty as to the economic viability of planned capital expenditures. Any proposed legislation which restricts the availability and utilization of investment capital should be judged carefully.

The economic risks of investment in the energy business are traditionally as high as any business segment in our economy. It should be clear that with a greatly reduced rig count, declining market prices and our apparent failure to achieve long-term product demand for the hydrocarbon, the energy industry is becoming less attractive from an investment standpoint. The current tax incentives are, in part, a critical link to the economic crediblity of many drilling and pipeline capital projects. Institution of new tax rules at this time will at a minimum cause added confusion as the investment and credit communities are taking a harsh view of the energy industry.

Thank you very much.

Mr. HALL. Thank you, Mr. Phillips.

Thank you all for your presentations.

Inasmuch as I am the one to ask you the questions, I think I will start with Mr. Scherder.

And I forgot to tell you that Robert Phillips is president of the Eastern Gas Transmission Co. I did get you confused with your brother. You are the president there.

Mr. PHILLIPS. Yes.

Mr. HALL. We had testimony by Keith Fraser talking about exporting 70 percent of their coal. I may have misunderstood him, but, I think, that is what his testimony was. And it laid out, I think, very well some of the problems with demand being low and prices, coal prices equally, overly depressed, that you all have to absorb some substantial costs not faced by your foreign competition.

That has been the theme that has been played here all day. And that, I suppose, you alluded to that, too.

Tell me this, in some of the reasons given were high inland transportation rates, stringent environmental laws, stringent health and safety laws, lack of deepwater ports, strong dollar, and so on. I could go on all day.

And let me go one step further. I remember hearing Dr. John McKenna, I believe, noted professor at the University of Texas, state that we have more coal than in five mideastern States, enough coal to double the total otuput of all the OPEC nations combined energywise, if we could but mine it.

Address that if you would.

Mr. **Scherder**. There are two related questions. The first one relates to the export situation. My company exports a much smaller percentage of our coal than Jim Walter Resources. However, the export market is extremely tight for the very reasons that you mentioned. The United States has recently fallen behind Australia, I believe, and we had been the No. 1 exporter for many, many years.

As far as the minability of coal in the United States, there are an extreme number of reserves in the United States, but as I mentioned earlier in my testimony, the economics of mining is that you mine the easiest reserves first and as you continue to open new reserves, they are much more difficult to mine and they are of a much lesser quality.

The coal industry needs the tax incentives that we currently have in order to mine those reserves. If not, we will become more of an importer of coal reserves in addition to losing much of the export business that we currently have.

Mr. **Hall**. Mr. Mewbourne, I think you also alluded to the disarray, as you describe it, in the oil and gas industry. It appears to have been increased, and Mr. Phillips just spoke of it. FERC order No. 436, recently issued in October.

What is the current information—I ask that of you or Mr. Phillips—of the impact of that order on gas producers or on you individually?

Mr. **Mewbourne**. Mr. Chairman, the impact is very severe, particularly as it falls upon independent producers in the country. Independents have had no market long term for their gas reserves for the past few years. The interstate pipeline companies have stopped purchasing natural gas on a long term basis. And independents have been forced to market their reserves to industries or to spot markets or get it moved some way to a user of natural gas.

In these new rules by FERC it will make it extremely difficult for independents to continue selling gas and, by the same measure, to drill for them. As to me individually, my company had to shut in 30 million feet a day on November 1 because of these new rules.

I wish Mr. Sharp were still here. Some of those gas sales were going to the State of Indiana.

Mr. **Hall**. He is the chairman of our subcommittee, and I am sure he will review your testimony, and we will see that he does. I have found Chairman Sharp willing to reason and to read and to listen. I will assure you that he will see this.

Mr. Phillips, do you want to enlarge on that?

Mr. **Phillips**. Yes, sir, I would. 436 has done something that reminds me in our industry is in a very emotional state and I am reminded of the weeks after the passage of the Natural Gas Policy Act of 1978, when panic literally was in the streets. It is not quite so bad. We don't have executives jumping out the window.

What we do have is a large number of certain type of natural gas marketers, brokers, producers, and small pipeline companies such as myself who are severely limited in our ability to move low-cost gas to needy consumers. And I think that is the key that we ought to focus on.

In the place of that gas that we were moving prior to November 1, and have subsequently been suspended by the impact of order 436, it is much expensive gas. It is older gas that is under old contracts that frankly, I think, if the facts were known—and they will be sometime in the future—to look back and we will reflect on the time surrounding November 1 and during this week we will find that most of the gas that it is replacing, the gas that was moving prior to November 1 is gas from major oil and gas companies at outrageously high prices under contracts that were executed many years ago or several years ago.

And what we are going to do is we are going to see the reverse, inelasticity of the marketplace. Voluntarily our industry had gotten its price down to where it could compete with residual fuel oil and coal for electrical generation, an additional industrial load.

We were limited by the impact of the Fuel Use Act, so we have had very little additional industrial capital expenditures made for gas-fired boilers since 1978. So we have had to compete with an inherently limited marketplace to begin with.

We did not compete very well in the years when our gas price was mandatorily rising. But when our market share became incrementally smaller as compared to a reduced residual fuel oil price, we started getting competitive, and we voluntarily got our prices in line and we have started increasing our market share.

We did that by throwing out the old way of pricing gas, and we did it by starting to get gas competitively priced, not just at the wellhead but at the burner tip. And that is where it needs to be competitively priced. To do that, you have got to get gas from the wellhead to the burner tip as inexpensively as possible.

We had a very cumbersome system under the NGPA that moved gas from the supply areas to the market areas, but it was working. And voluntarily, we had started to expand that pie again. The impact of 436 basically threw out our ability to impact market growth through economic savings by moving reduced price supply to the marketplace.

It is going to take us months for us to figure out where we go from here. We hope that it happens in less time than it took the industry to react to the NGPA of 178. At minimum, nothing is going to happen to change this until we get out of the winter season, because the interstate pipeline, very appropriately, I think, used the leverage that they got out of 436 to guarantee that they are going to make large sales of high priced and high margin gas during the wintertime, and I think the energy bills are going to be higher for the northeastern consumers this winter than they were last winter.

Mr. **Merritt**. Mr. Chairman, I would just like to throw out the banking factor and what the Comptroller of the Currency's policy is, what he calls his "red flag trigger." And that is that if the loan balance exceeds 65 percent of the discounted present worth of the future net income, those kinds of things and the classification guidelines for an energy loan, they are saying that reserves that happen to be developed and nonproducing reserves are shut-in reserves.

Examples could be reserves that are shut in due to economic conditions versus reserves that are shut in due to absence of pipeline. These type of reserves require careful evaluations before allowing any banking collateral value. When the Comptroller of the Currency is putting the squeeze on the banks, the bank has to put the squeeze on the producer, and he is going to be forced to sell at a fire sale just to stay, just to maintain a little bit of his business.

Mr. Hall. And that puts the squeeze on the people that work for him, and that puts the squeeze on the people that sell him groceries and that puts the squeeze on the people who sell the groceries to the grocery stores.

Mr. Merritt. Arco just bought out Henderson Clay, and the employees said, "We will put you to work over at the Arco office in Tyler." They brought him over for 3 weeks and then let him go. They moved everybody to Houston.

Mr. Hall. I want to get back to Bob Phillips in a moment and ask him to enlarge on structured regionalism that you referred to when you were talking there.

But, Mr. Merritt, you are in the services sector. You are in several sectors, but basically, I think, you and your company are in the service sector. You all have been especially hard hit by the current situation. How has your company been able to survive in this environment, and what have you done?

Mr. Merritt. We have worked our fannies off. It has been difficult.

Mr. Hall. What management decisions have you been forced to make?

Mr. Merritt. In the testimony of 1983 I testified that Merritt Tool was trying to get out of the oil service business as fast as we could. We have picked out Government contracts or subcontracts that in 1981 we went from 150 people down to 20 people. In the last year and a half we have gone from the 20 up to 109. At this very date we are laying off some 50-some-odd. We will go down to 53 people.

But basically, we are getting out of the oil and gas service business through Merritt Tool and trying to get more into the subcontract machining for defense contractors. We have also pursued direct contracts with the Defense Department.

Our insulating businesss has gone—I think we only have about three or four insultors working in refineries. Primarily, we are working in the power generation plants. The majority of that is we have gone into the asbestos-abatement business, which is a high-risk business, but it is a business that we can work on.

Mr. Hall. These are all efforts to survive.

Mr. Merritt. That is correct.

Mr. Hall. And try to keep from having to let your people go.

Mr. Merritt. That is correct. In the past, Congressman, in 1981 we kept our people on. We felt like it was not fair to our people for them to write our checks and put out the effort. We kept them on, and we tried to warn them that we were going to go through tougher times and to let them find additional jobs. We went through a tough time. We struggled, and we survived that last downturn.

What occurred in the last 2 weeks, both of our major suppliers, which happen to be what they call "measurement while drilling," which is a tool used offshore, stopped all of their orders, postponed them indefinitely, telling us that they might pick up the slack next year, which would be in the summer.

What we did was, rather than wait until the summer and carry our people like we normally would, we felt like to survive we had to cut them right there. Every one of them is highly trained, skilled.

Mr. HALL. That is a very hard thing to do.

Mr. MERRITT. That is correct.

Mr. HALL. That ties in with Mr. Gaylord Hughey's testimony about the stacked rigs and the unemployment lines. And you in the service sector have experienced that yourself, to have to be the one who looks the men or women in the eye and tell them that they need to find another job or to curtail them completely.

Mr. MERRITT. That is correct.

Mr. HALL. And that is not unusual in north Texas, is it, and east Texas?

Mr. MERRITT. No, sir.

Mr. HALL. It is an everyday occurrence. It is already occurring.

Mr. MERRITT. That is correct.

Mr. HALL. That is under existing circumstances. That would certainly be affected detrimentally if Rosty I or Treasury I should be enacted.

Mr. MERRITT. I reflect that whether it is enacted or not enacted, the damage has already occurred, just from the discussions I have heard from the President in January mentioning the loss of it, the treasury loss of it. People are pulling in their horns. It is a difficult deal just to mention it. It has nothing to do with the law.

Mr. HALL. Mr. Phillips, would you enlarge a little on the effect of Order 436 and how you worked the structured regionalism into it? I didn't understand that, and I doubt that it is clear in the record.

Mr. PHILLIPS. I would hope that Mr. Mewbourne would and could concur with me and add to my thoughts on that as well. But I would like to take at least that concept to a point where it matters to this committee. The natural gas industry is only a portion of the problem that we have got to address with new tax legislation.

We are on a downer right now. The reason we are on a downer is because we have lost market. The only way to get market back into economically with structural growth, create the building blocks for a firm and solid future for this industry is to increase market for our product. The only way to do that is to get cheap gas supplies to the marketplace so that that marketplace will continue to use our product and eventually will continue to generate increased demand for that product.

Now, to do that, we have got to have regulatory mechanisms to move inexpensive or market-valued—in this case, they are synonmous—market-valued supply to the consumer.

Now, we had a methodology for performing that function to get inexpensive supply to the consumer under the Natural Gas Policy Act of 1978. With the promulgation of order 436, the FERC has, in effect, eliminated the ability of suppliers, whether it be producers or pipeline companies, noninterstate pipeline companies, to move a substantial portion of the available market-priced product to the consumer.

Now, they have, ineffect, eliminated that, and what we are faced with now is an inability to have regulatory approval or regulatory authority for the movement of gas from the areas of supply to the areas of consumption. It has taken a large portion of the producers and marketers out of the scheme and placed the entire burden back upon the interstate pipelines to regulate the total amount of supply and the prices upon which that supply is sold to the consumers.

Structured regionalism simply means that we as a large portion of the producing and marketing oil and gas community are now forced to sell our product within a regional environment. We do not have the capability of moving supply from the supply area to the much needed consuming area of the Northeast or the Midwest.

Mr. Mewbourne talked about a supply going to the State of Indiana. He will now be prevented from doing that under the impact of order 436. And he might want to pick up from there.

Mr. **Hall**. Mr. Mewbourne.

Mr. **Mewbourne**. The valiant attempt that the FERC has made to redo the rules has turned out to be a disaster for independent operators. In many areas of the country now, pipeline companies are refusing to purchase gas from newly drilled wells. They are also refusing to transport gas. How are you going to drill wells, I will ask you, if there is no way to sell natural gas?

And it is having the obvious effect. It is reducing drilling, and now these tax proposals are showing up as well. I have the opportunity to go into people's offices and talk to them about investing money in the oil and gas business, and I will tell you, Mr. Chairman, that is not an easy job today. And there are decisions being made today to withdraw capital from this industry because of these problems.

Mr. **Hall**. I think what has been the high note of most of the testimony today—and I think you just struck on it there again—is, due to the nature of this business being so capital-intensive, coupled with such a high risk, that I think any small change in the tax rate can just be disastrous. And it increases on an increasing ratio, as shown by Mr. Cargill's chart over there.

Tax reform proposals that affect oil and gas production are estimated, according to Mr. Cargill—these are not his estimates, but the Joint Committee on Taxation's estimates—to produce $11 billion during 1986 to 1990. But I think that the testimony here today and other independent producers, they estimate that the tax reforms will not raise $11.7 billion in revenue, but will result in a loss of $45 billion. And that is how delicate the balance is.

I think that is the thing that has been the theme throughout and maybe that someone in this Congress has missed the combination of the high amount of captial that it takes for the littlest people in the business who find it to sell it to the biggest people in the business that are taking this cost and this expense away, to the detriment of this country, not just the energy thrust, but the national defense combined.

One of you—maybe Mr. Merritt—alluded to the Big Inch pipeline during World War II, and I remember seeing some Legions of Merit having been handed out to maybe Bob Cargill's dad, to Mr. Cargill, and to a fellow named Pete Long and some of the others, what they considered oldtimers in the oil and gas industry, there for their contribution to that.

I guess what I am trying to say—and I am saying it poorly—is that—and I know of a professor of economics who had a visiting professor speak to his class for 1 hour and 5 minutes on supply and demand, and when he finished, he said, "What Dr. Cherry has done told you is that if your outgo exceeds your income, your upkeep is going to be your downfall."

And I think that would be a good note to close this on, because that is what the Ways and Means Committee needs to know. And you have done an excellent job of bringing this information to us here. You have been selected to come here. You were asked to come here, each of you were, by the member that asked you. I think each of us were given three to have come testify at your own expense, and you have done that.

And I would say also, though, that it is a great opportunity for you because there are many people across this country that would like to have this forum and would like to have this opportunity because as I go through my district that had 80 or 90 million barrels of oil the year before last. I have not been supplied with the figures by those folks of you who supply the figures.

I hear people say, "I would like to just go up there and tell them. I would like to show them what effect this is having on me." These are not just the chairmen of the corporations. These are little people that have lost their jobs. Some of them have lost their car and their homes.

I think it is generous of you to come. I will stay the rest of the day if there is anything else in closing that you want to submit that you feel on behalf of the people that you represent ought to be told.

Congressman Dowdy, Fields, Shelby, Tauzin, we have held hearings in our districts. You have graced us with your presence there, and we are trying to let the word go forth that this is a business, that everybody in the oil and gas industry is not like a television show, it is a business. It is a business that highly affects opportunity and the ability of this country to defend itself. And those are things that we really need to keep in mind.

I would recognize any of you for closing statements if you would like to make one.

Mr. MERRITT. Congressman, I would like to say one thing. We appreciate you asking us to come up here, and also the other distinguished panel, including Frank Pitts and Commissioner Wallace. I think they have done a tremendous job for the industry.

I would also like for the record to say that I have been here several times to listen to testimony, and the independents reported to Congress to give us the incentives, we found more gas, and we also told you that if you would decontrol natural gas, that the price will drop and not go up.

I think our credibility is sound. We are not here crying about the lowering of prices. We are just asking to be left alone and to let the industry work under the rules that it has worked under for some 60 years. Our credibility is there. And what we are saying about the industry going through devastation will be felt by the country in additional and higher oil prices and equipment prices.

Mr. **Hall**. That is the type of statement I wanted Congressman Coats to have heard. I know he was genuinely seeking information, and he, of course, will have an opportunity to read this record.

Are there others that want to make any closing statements?

Congressman Bryant has just returned.

At this time, I recognize you, Congressman.

Mr. **Bryant**. Thank you, Mr. Chairman. I am sorry that I had to be gone for about an hour there. I had a conflict that I could not overlook.

Let me just say thank you to the panel for being here. Congressman Hall and I asked the chairman to put this hearing together because we felt that our industry needed an opportunity to tell this committee what the impact would be of these tax proposals on our ability to be energy independent.

We owe Congressman Sharp a great vote of thanks for pursuing this line of inquiry on behalf of the committee, and we owe you gentlemen a great debt of thanks for coming all the way up here and testifying.

Mr. **Hall**. Thank you, Congressman Bryant.

This concludes the hearings. We will leave the record open for 10 days for any information that seems applicable, and at this time we once again and thank those others who are still in attendance here.

Also, I would recognize Ms. Kathy Whitten, who is a long time member of Congressman Dowdy's staff and a real expert in the field of energy, along with her husband. Happy to have you back in town, Kathy. Happier still to have you in Texas.

Thank you. That concludes our hearings.

[Whereupon, at 2:50 p.m., the subcommittee was adjourned.]

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